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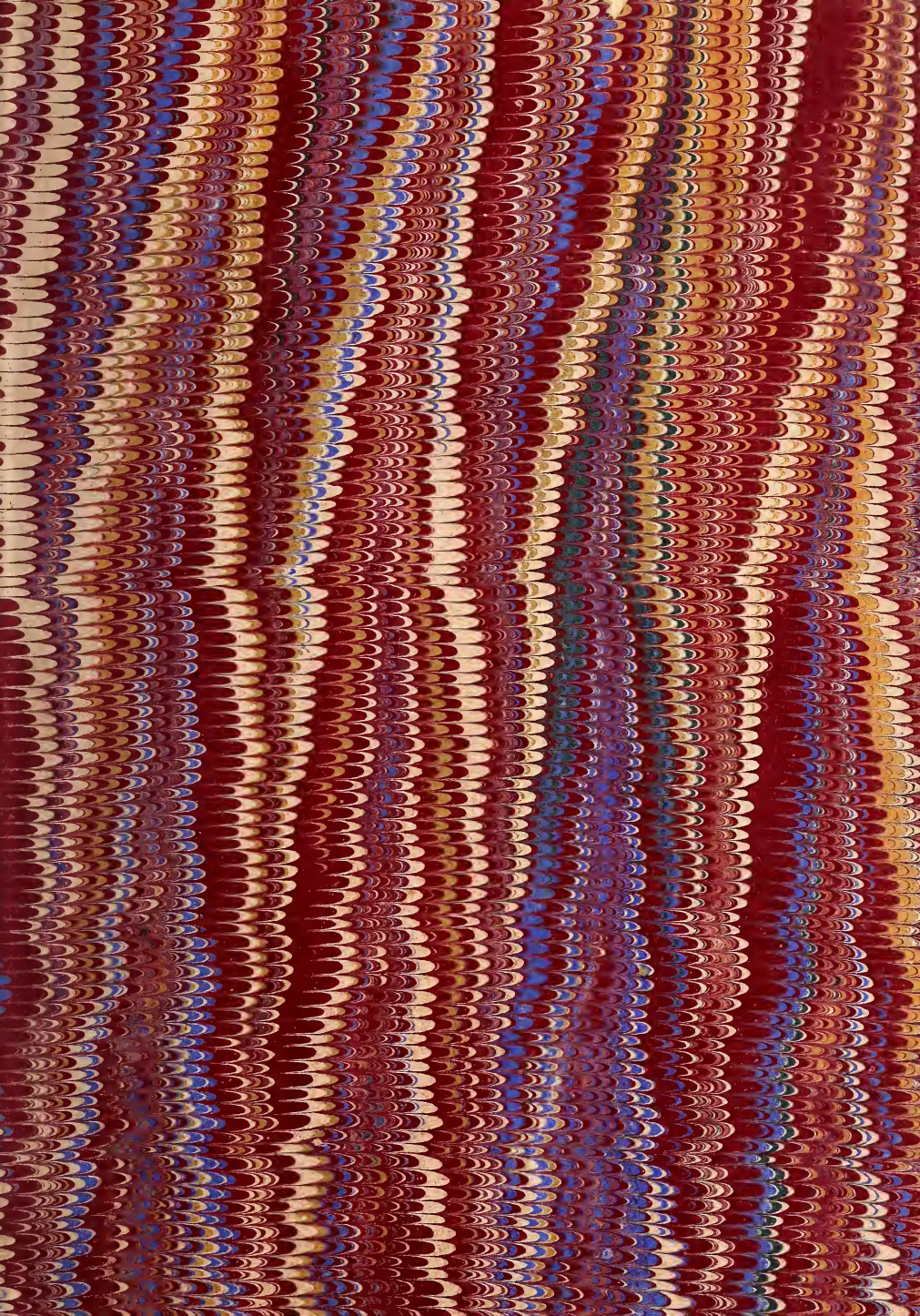
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UNITED STATES OF AMERICA.

















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## A SERIES OF ARTICLES

—ON—

# Southern California

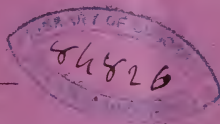
Written for the Anaheim Gazette,

—BY—

**W. R. OLDEN.**

Giving Statistics as to the Irrigating facilities of Southern California, with Estimates of the Cost of Planting Orchards and Vineyards; also, all the various Crops, such as Barley, Rye, Corn, Castor Beans, Potatoes, etc., etc.

Together with an Estimate of the Profits per Acre. Giving, also, Information in regard to the Prices of Land in Los Angeles and adjoining Counties.



ANAHEIM, CAL.:

DAILY EVENING GAZETTE PRINT.

1875.



## IRRIGATION IN SEMI-TROPICAL CALIFORNIA.

### No. 1.

The only portion of Semi-Tropical California which possesses an abundant supply of water for irrigation, is found in the valleys of the Santa Ana and the San Gabriel rivers. These rivers take their rise in the Sierra Madre range of mountains, and flow southerly through the great valleys of Los Angeles and San Bernardino counties to the sea.

#### SOURCE OF WATER SUPPLY.

With the exception of a short period in each year, during the winter and spring, when their volume of water is increased by rains and melting of the snow in the mountains, all of the water of these rivers is derived from permanent and deep-seated springs, which discharge the same unchanging volume during all the varying seasons of the year. The source which supplies these springs must ever remain a matter of conjecture. The Sierra Madre is not more than from fifteen to twenty miles in width, and is composed entirely of sharp ridges with precipitous sides, generally of bare rock, affording no holding ground in which to store up a supply of water.

Judging from the flow of the rivers, and the amount of water produced by the constantly increasing number of flowing artesian wells in the valleys of both counties, the artesian streams, which furnish all of this water, must contain an almost unlimited supply. It is a rare occurrence when the sinking of one well diminishes in the slightest degree the flow of those in the immediate vicinity, sunk previously.

It has been ascertained, by boring, that the subsoil of our artesian lands is composed of great beds of solid clay, miles in extent, ranging from five to one hundred feet in thickness, one below another, with intervening deposits of sand and gravel. It is in these latter that the artesian streams are found flowing on their way to the sea

I believe it is in every case found that the deeper the stream in the ground, the higher it will flow. In boring they persevere until they reach a stream, with sufficient head to rise and flow, and if that is not sufficient, they bore on down and penetrate other streams, until they will aggregate a sufficient supply, and then by piercing the pipe, at the depth at which they found each stream, they combine them all in one. By pursuing this plan there is hardly any limit to the flow of an artesian well, if they bore down to a sufficient depth, except the diameter of the pipe. Our knowledge of the extent of country in which these wells can be obtained is yet imperfect, but a sufficient number of wells have been sunk in the valleys of the Santa Ana and San Gabriel, in Los Angeles county, to prove that they can be obtained at pleasure anywhere in an extent of country, comprising in its boundaries not less than 100,000 acres, by boring from 50 to 200 feet. On the more elevated lands adjoining it is necessary to bore from 100 to 200 feet deeper. It seems to be only a question of depth anywhere in the valley.

The San Bernardino valley is not so extensively prospected, but in the verdant valley immediately surrounding that thriving town, wells are obtained in the greatest abundance with a very strong flow. This is the only place at which wells have yet been obtained in that county; but in the south-western part of the valley, within a few miles of the place where the Santa Ana river enters the pass through the hills intervening between the Los Angeles and San Bernardino valleys, upon the Jurupa, Chino and Rincon ranches, there are very many and very powerful springs which furnish in the aggregate a very large volume of water. So large is this supply that it is sufficient to supply all the water needed to irrigate all the lands on either side of the Santa Ana river in Los Angeles county in the driest part of the year. If these springs can be taken as an evidence—and nothing but actual flowing wells could be better—we must add



a body of land to the artesian well district of not less than 30,000 to 40,000 acres to that already proved in and about the town of San Bernardino. The whole amount of flowing well land in that county may safely be estimated at not less than 50,000 to 60,000 acres.

Without reckoning upon any increase that may be obtained in the future, the aggregate yield of the wells and springs flowing into rivers is very large; and what is better it is permanent and unceasing. The rainfall on all parts of the watershed of both of the previously named rivers could not furnish one hundredth part of what we now have—so that we must look further for the source of all this water.

On the north-eastern side of the Sierra Madre is an immense Desert Basin, the lowest parts of which are four thousand feet above the sea level. In this great basin are many lofty ranges of mountains, covered every winter with heavy falls of snow. In the spring this snow melts, and, flowing down their sides, sinks in the sand at their feet, and consequently is not lost by evaporation. If these waters have no outlet under the Sierra Madre to the sea, through cracks and crevices of the strata, they would each year show in form of shallow lakes in the lower part of the basin; but I am informed that this is not the case, consequently the presumption is strong that the vast volume of water which flows under our valleys to the sea and supplies our springs, rivers and flowing wells, is nothing but the melted snow of the great interior basin lying between the Sierra Nevada and the Rocky Mountains. But, be that as it may, one thing is certain—there is plenty of water, and the supply is unfailing. With plenty of water there can be no agricultural impossibilities in Semi-Tropical California.

## IRRIGATION IN SEMI-TROPICAL CALIFORNIA.

### No. 2.

#### THE VALLEY OF THE SANTA ANA.

Commencing at the head of the valley at San Bernardino, near the point where the stream emerges from the Sierra Madre, in which it takes its rise, and where it also receives the waters of several branches from the north, we find a basin or valley thoroughly irrigated by the waters of the river and its branches, as well as by numerous artesian wells, all parts of the settlement having abundance of water.

The Riverside colony is 12 miles further down the river on the south side. That settlement is now consolidated with the New England and Santa Ana colonies, which adjoined it on the south-west, the whole tract comprising 25,000 acres, most of which will be irrigated this year by ditches brought from the Santa Ana river. Immediately below these tracts is the Sierra Sepuveda Rancho, containing about 10,000 acres of irrigable land of similar character, all of which can be irrigated by the ditch now being constructed; making 35,000 acres of irrigable land on the south side of the river. Immediately north, on the opposite side of the river, is the Jurupa Rancho, containing 30,000 acres of irrigable land, all of which can be irrigated by a ditch brought from the river; and also at least one-half by artesian wells. Add to this 15,000 acres or more in Ranchos Chino and Rincon, we have 80,000 acres in the lower valley, and adding 20,000 more for the town of San Bernardino and vicinity, gives us an aggregate of 100,000 acres of irrigable land in the upper valley of the Santa Ana in San Bernardino county.

The valley of the Santa Ana, in Los Angeles county, includes the settlements of Orange, Santa Ana and Tustin—on the south-east side. The tract occupied by these settlements contains about 40,000 acres upon which irriga-

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tion is required; part of which is now irrigated from a ditch already constructed, and which only needs enlargement to irrigate the whole. The soil is good, and most of the country is quite thickly settled.

On the north side of the Santa Ana is the town and settlement of Anaheim, which is noted as the most successful colony yet planted in California. The original tract of Anaheim has long been irrigated by the waters of the river, and now a ditch is being constructed to irrigate some 14,000 acres on the north side of Anaheim which comprises some of the finest land in Southern California. On the south side another district of equal size is being formed, which will enlarge the ditch of District Number One, and by or before next fall the two districts, with Anaheim, will comprise a body of over 30,000 acres irrigated by ditches. There is also, adjoining, about 15,000 acres that will probably be formed into a district and construct a ditch next year. All of this land, on both sides of the river, is not only admirably adapted to the growth and production of semi-tropical fruits and vines, but also to all kinds of farming crops.

Between these tracts and the sea lies an immense body of moist valley land, all of which is included in the flowing artesian well belt, which crosses the lower part of the valleys of both the Santa Ana and San Gabriel rivers, and extends north-east and south-west about 30 miles, with an aggregate width of five or six miles. Within these limits there is ample reason to believe that artesian wells can be obtained upon each acre—but as each well will irrigate from 40 to 300 acres (they vary materially in flow) one or two wells are sufficient for 100 acres. The expense of irrigating by these wells is quite moderate. There are now flowing and in full operation very considerably more than 200 artesian wells within the limits of this belt, which comprises the thriving settlements of Westminster and Gospel Swamp, in the Santa Ana valley, and

Artesia, Compton and Florence, in the San Gabriel valley.

The San Gabriel river rises in the Sierra Madre, and sinks shortly after leaving the mountain cañon in which it was born; but not before a portion of its waters have been diverted by ditches on to the Azusa Rancho, upon which is the settlement of Duarte. The remainder of the stream flows under, and *its rising moisture keeps evergreen* the settlement of El Monte, below which, in passing through a gorge in the Puente hills, it reappears in greatly increased volume through the medium of springs, part of which flows to and from the Old San Gabriel, and the remainder unite and flow in the channel of the New San Gabriel river, which continually diverge on their way to the sea, their mouths being separated by a distance of about nine miles. The strip of land included between the two streams, together with a considerable strip east and west, is known as Los Nietos, which together with El Monte, has long been famous for the production of corn, which their facilities for irrigation enabled them to produce successfully all seasons, dry or wet. The land between the rivers has long been irrigated by ditches, and also part of the land on the east and west sides of the valley; for although there are two streams, there is but one valley. Not more than two-fifths of the land in the valley is irrigated, that by a judicious and economical use of the water, under the Irrigation law, could and should be irrigated. If it was deemed necessary to increase the volume of water at the head of these streams, I am confident that it can easily be done by sinking artesian wells at the point where the springs burst forth in the Puente gorge, through which passes the drainage of not only the San Gabriel, but also of one of its affluents—the San Jose creek, an unfailing stream of considerable volume and which is supplied by numerous springs. As at present managed, at least one-half of the water is wasted, or, to say the least, does not

irrigate more than one-half of the land that it ought. Water in Southern California is too precious to be wasted. Public interest requires that it should be carefully husbanded.

The next irrigating stream in importance is the Los Angeles river, a branch of the San Gabriel, which takes its rise in the lower part of the San Fernando valley, from numerous springs. The waters of this stream are entirely devoted to the irrigation of lands about the city of Los Angeles, amounting to about six thousand acres, and without which the fine orange groves and other plantations of which that city boasts could not exist.

In addition to the irrigation facilities, furnished by the rivers and artesian wells, there are numerous small streams flowing out of the Sierra Madre, which, with the springs rising at the base of the mountains, are now and can be utilized to irrigate from 30,000 to 40,000 acres more. The flourishing settlements of San Gabriel and Cucamonga are evidences of what the springs and mountain streams will do.

In the present and preceding article I have endeavored to make a statement of facts which cannot be disputed; which will show conclusively that the two above mentioned valleys contain the greatest abundance of the finest land, and that there is water enough now available or which can be obtained, to irrigate all of the land in those valleys which is low enough and sufficiently level to be irrigated.

We have the finest climate, soil of extreme fertility and the greatest abundance of water. What we lack is population, and at last, thank God, that is coming. Cultivated by the industrious hands of this coming multitude, these valleys will soon "blossom as the rose," and those among us who have worked untiringly and unceasingly to trumpet forth to the world the capabilities of Semi-Tropical California will yet reap their reward. They will live to see the fulfillment of

their predictions. These valleys will in a few short years become an earthly Paradise and the resort of those in search of health or pleasure from all parts of the world.

## IRRIGATION IN SEMI-TROPICAL CALIFORNIA.

### No. 3.

#### THE SAN GABRIEL VALLEY.

The San Gabriel river also takes its rise in the Sierra Madre Mountains, and issues from them a few miles northerly from El Monte, but soon disappears beneath the immense bed of gravel and boulders which form its bed after reaching the plain. To properly utilize the waters of this river, the water should be brought out in flumes and ditches from some rocky ledge in the cañon, before it has time to sink, then it could be brought out on to the table lands on each side, and reclaim much land, now worthless for want of it. Enough has been done on the Azusa Rancho, in the settlement of Duarte, to show what could be done if the water was properly utilized.

El Monte comprises the upper valley of the San Gabriel, and contains about 10,000 acres, most of which are made very moist and productive by natural moisture, or the constant presence of abundance of water in the soil, so near the surface that crops are grown without irrigation; and like a large portion of the valley below, on similar land, the crops never fail. East of El Monte is the valley of San Jose, about 20 miles long by an average of one mile wide, watered by an unfailing stream of spring water, sufficient, if properly utilized, to irrigate the whole valley.

#### THE LOWER VALLEY

Commences at the point where the San Gabriel river passes through a gorge in the Puente Hills; and where, as I have before remarked, the river, after passing under El Monte, encounters a ledge of rock, or some other obstacle, and rises again in the form of springs,



part of which flow into and supply the Old, and the other part the New San Gabriel rivers. Nearly all the water of both streams is taken out for the purpose of irrigation, during the Summer, but there is no system of ditches, and the water is wastefully used by the parties owning the ditches, so that not one-half of the land is irrigated that should be, if the whole district was organized under the law and managed to advantage. Besides it is probable that the quantity of water could be indefinitely increased by sinking artesian wells at the point where the springs burst forth, from which the water might be carried on to the fertile table lands on each side of the river, which are now almost entirely without water. Seven miles below the springs, the flowing well-belt is reached, below which point, the country is independent of ditch-water. The lower valley, or Los Nietos, contains, between the springs and the artesian well-belt, about 10,000 acres of land, which is irrigated, and at least as much more of better land which ought to be irrigated by the present supply of water.

The Los Angeles river, a westerly branch of the San Gabriel, supplies with water at and below the city of Los Angeles, about 6,000 acres, and yet, although the system of ditches and the management of them is the best of any now in the county, still it is proposed to save the water now wasted, and irrigate more land.

The valley of the San Gabriel, including its branches, contains, with El Monte, about 30,000 acres, that, from irrigation or natural moisture, are certain to produce crops any and every year—land entirely independent of the seasons; and it is quite safe to calculate that there is fully 30,000 acres more that ought to be irrigated, and will be, when a more energetic and enterprising population has replaced the sluggish and pig-headed class, that not only won't do anything themselves, but, like the dog in the manger, try to keep all others from doing it. Then

these extensive and fertile plains will cease to be the grazing grounds of comparatively worthless stock, and become the happy homes of thousands of people. Land capable of irrigation in these fertile valleys, is too valuable to be longer kept as pasture grounds. Our large and fertile ranchos must be divided up, and become the homes of the coming multitude, whose advance guard is already here. This will enrich their owners, and develop the country. No one pretends to dispute the fact that our climate is superior to that of any part of the world. Our meteorological record proves this beyond question, and the writer, an expert in agricultural lands, unhesitatingly declares from personal observation, that there are no lands in any other part of California, or in the Mississippi valley, not even the Ohio river bottoms, that will compare in fertility and productiveness, to the irrigated lands of Semi-Tropical California. But by far the most valuable of our resources is our inexhaustible supply of water for irrigation, by the aid of which, and our favorable climate, agricultural operations are reduced to a mathematical certainty. With a simple adaptation of crops to the season, seed-time and harvest is continuous throughout the year; two, and sometimes three crops being produced on the same land continuously, year after year, not only without diminution of fertility, but, in well known instances, with a vast increase of fertility. No instance can be named where lands have lost their fertility, or become exhausted by cropping, when properly irrigated. The valleys of Damascus, in Syria, irrigated and under constant cultivation for thousands of years, I am informed by travelers, could never have been more productive and fertile than they are now. And the fertility of the Nile, as is well known, is constantly renewed by the annual inundations, each of which deposits its fertile layer of mud. But the Santa Ana river also carries in solution its layer of fertilizing mud, which fertilizes our lands,

not once in each year, but every time we irrigate. By means of our facilities for irrigation, our fertilizing stream is turned on to the land at pleasure. Our land is kept constantly in the highest state of productiveness and constantly increasing its fertility. By this system of cultivation, the largest crops are raised at the least cost, and with perfect certainty. Forty acres of irrigated land will not only make more profit than two or three hundred acres of their boasted wheat lands in the northern part of the State, but will, if an average crop of ten years is taken as the gauge of their productiveness, produce more crop. The rule there is one good crop, and three bad ones. The profit made on the first, is more than lost on the failures.

When these facts are taken into consideration, people will cease to wonder at the prices at which lands have been sold in this county—at the public sales of Artesia and Centinela; but, really, where the real value of these hundreds of thousands of acres of irrigable lands is understood, the wonder will be that they ever sold so cheap. Immigrants seeking homes should *see for themselves, and not heed the interested advice of parties offering to sell the parched and unproductive plains of the north, and buy nothing without water.*

## IRRIGATION IN SEMI-TROPICAL CALIFORNIA.

### No. 4.

In the preceding articles, I have gone over the field and described as well as I could, without going into detail, the actualities and possibilities of irrigation in Semi-Tropical California. I will now proceed to describe the present condition of irrigating ditches—those which are actually being constructed in the different localities, and what may reasonably be expected to be built in the immediate future. I will first proceed to describe the most important enterprise in ditch building,

ever attempted in this section. I refer to the ditch of the first irrigation district organized under the Irrigation law of Los Angeles county.

#### DISTRICT NO. 1

Includes within its boundaries nearly 15,000 acres of irrigable land, lying north-east, north and north-west of the town of Anaheim, and comprising in one block the largest and most fertile body of irrigated land in the county. (The great body of lands heretofore irrigated have been low-lying lands, adapted principally to the production of corn, barley and alfalfa—strictly farming and not fruit lands. There are, of course, important exceptions, which will be noticed hereafter.) These lands all have an elevation above the sea of from 150 to 300 feet. This secures exemption from frosts, to which low-lying lands are subject, and added to their extreme fertility, makes them most desirable for the culture of semi-tropical fruits and vines, whilst at the same time they are equally as well adapted to the production of farming crops as lands in any part of the valley.

In the cañon of the Santa Ana river, at the distance of 12 miles above the town of Anaheim, there is a natural dam. A ledge of rock crosses the river from bluff to bluff. All the water in the river rises and flows over this obstruction, and notwithstanding the fact that after having passed this point it soon sinks and disappears again, there is at all times of the year a large stream of water flowing over this dam. As most of the water in the river above is taken out in the Summer to irrigate lands about San Bernardino and Riverside, our supply is derived from the springs heretofore described as flowing from the lower part of the upper Santa Ana valley, a few miles distant. This water cannot be taken from us, and may confidently be relied upon as ample for all our needs, for all time.

To properly utilize this invaluable treasure, all future ditches intended to irrigate either side of the Santa Ana river must take their water from the river at

this point. And it is here that the ditch of District No. 1 commences. The ditch, which is a large one, is dug out of the solid red clay, on the north bank of the river, and at the point where it leaves the cañon and comes out into the elevated mesa lands. At this point it is one hundred feet above the river, the latter having a very rapid fall. At least three-fourths of the water will be used upon the valley lands. All that is not required for the use of the mesa lands, can here be dropped down a descent of about eighty feet perpendicular, and will be made use of for a water power, there being abundance of water to furnish power for several large factories. It is believed that at no other place in this State can a water power be found, of equal volume, in the heart of a fertile valley, and convenient to both railroad and ocean navigation. Woolen manufacturers can buy any quantity of wool here at low rates. Thousands of tons of straw are burnt yearly to get rid of it. Paper manufacturers can buy the straw at their own price. Castor beans are now largely raised, and flax can be raised to an indefinite extent, as the crop has been tested and does well. Living is cheap; the operatives can afford to work here for less wages than in countries where living is more expensive. In short, everything is favorable for the development of a large manufacturing industry. The water power can be purchased at a cheap rate, and it will be steady and reliable. The land upon which to build the manufacturing town, can also be purchased cheaply. Everything is favorable for the introduction of manufacturing enterprises, which cannot fail, from economical reasons, to be very profitable.

On the south and east of the town of Anaheim there is a large body of land—about 9,000 acres—which will form the second irrigation district. To supply this tract, the ditch of the first district will be enlarged; and as all of the tract is in the valley, this will increase the water power very largely. The remaining lands, lying west and south of these two districts,

are all in the flowing artesian well district, and include the large and flourishing colonies of Westminster and Artesia, as well as a vast amount of most fertile lands not yet sold, but which are surveyed and in the market. These lands are admirably adapted to colonies, as many thousand acres can be purchased in a body. These are the cheapest and best lands in Southern California, and can be purchased on easy terms in lots to suit, at prices ranging from \$25 to \$40 per acre. Most of these lands are naturally moist and on all of them artesian wells can be obtained. There is abundant proof of this, as there are now considerably over a hundred flowing wells already, and these are scattered over the entire area, and thus the whole of it is prospected and proved. The whole tract lying west of the Santa Ana and east of the New San Gabriel, and between the hills and the ocean, comprising a block of about twenty miles square lying in the centre of a great valley includes a variety of soils adapted to every kind of farming and fruit raising. Near the sea are vast meadows well supplied by springs and covered with perpetual verdure—the very finest dairy lands in the United States. In the Eastern States it requires the produce, with good cultivation, of from four to six acres to support one cow. In the northern part of California, in the best dairy districts, it requires the natural growth on ten acres to support one cow; but on these lands the natural grasses will sustain from one to five cows per acre, year after year. Drouths do not affect these lands, as the rising moisture furnishes an unfailing supply. Next to these, going back from the sea, is a broad belt of bottom land, sufficiently dry for cultivation. These are the lands for corn, barley, alfalfa and kindred crops. As we pass from the sea coast on our way to the hills, the valley rises with an ascending grade of 13 feet to the mile, so that although the character of the soil varies but little, the gradually increasing elevation varies the adaptability of the soil to different crops,



and at the same time, contiguity to, or distance from the coast varies the climate, which although good in all parts of the valley, possesses a great variety. Any one can find in some part of it a soil and climate adapted to any crop or almost any disease.

## IRRIGATION IN SEMI-TROPICAL CALIFORNIA.

### No. 5.

My last referred to the lands and ditches lying on the west side of the Santa Ana river. In this I will describe the fine country lying east of the river.

Commencing at the sea coast, we find a belt of elevated table lands, reaching from the bank of the river eastward, rising in their progress in that direction into lofty hills. This belt is three or four miles wide. Immediately north of this is an equally broad belt of cienega lands, full of large, deep-seated springs, all of which is perpetually moist and green, making the very finest kind of dairy lands. This belt is quite extensive, extending in an easterly direction from the Santa Ana river 10 to 12 miles in length, with a width of 3 to 4 miles, and is a part of the previously described belt on the east side of the Santa Ana valley, the whole belt having a length of not less than 30 miles, by an average of 4 broad. Dairymen should notice this fact, that the valley of the Santa Ana river contains not less than 120 square miles of perpetual green pastures. These lands cannot be matched for productiveness in the United States, or any where else. Those portions of this cienega, that are sufficiently dry for cultivation, produce enormous crops of corn, beets, pumpkins, alfalfa, etc. The only objection that can be made to any part of these lands, is that portions of them are rather too wet, and should be drained. Where this has been done, the productiveness of the whole belt will be as great a

marvel as is that of the Gospel Swamp, and such other portions as are now cultivated.

North of this belt the land gradually rises up to the base of the Santa Ana range of mountains, which bound the valley on the north. This tract of land is warm, fertile and productive, lacking nothing but a supply of water for irrigation to make it most desirable for the cultivation of semi-tropical fruits and vines, and also for the whole range of temperate fruits, and ordinary farming crops. Part of this land is now irrigated by a ditch, and the whole 30,000 to 40,000 acres could be, if the ditch—which is now far too small—was enlarged to a proper size, and extended up the river to the natural dam, previously described, a distance of some three miles. In flowing that distance, after passing over the dam, it is calculated that one-half of the water of the river is lost, having sunk in the sand; therefore, to obtain an abundant supply of water for the large tract of land requiring it, it is imperatively necessary that the supply should be taken from the fountain head, where it is in abundance.

If the people of Orange, Santa Ana and Tustin will organize under the provisions of the irrigation law, purchase the present ditches, and enlarge them to a proper size, their already very desirable country will present attractions that will be surpassed by no part of Semi-Tropical California. The above named settlements have already obtained a considerable population of the right kind of people, but these are only the advance guard of what are coming, and they should look ahead and provide water, not only for the present population, but for that which is coming in the immediate future. Every settlement in this section should endeavor to make their respective localities as desirable as possible. Our future increase of population, which is another word for our future prosperity, depends upon this; and the only rivalry between us should be to see who can offer the greatest inducements to these new-comers.

## FARMING IN SEMI-TROPICAL CALIFORNIA.

My previous letters have been devoted to the extraordinary facilities and resources for irrigation, which Semi-Tropical California possesses and which may truthfully be said to surpass those of any other part of the State. We have not only a greater abundance of water for irrigating, but unquestionably the best climate and the richest and most productive soil, capable of producing, successfully and profitably, the largest variety of productions of any lands in any part of this State.

With a climate and soil like ours, a sufficient supply of water is the only thing required to make a certain and profitable result with any crop that is planted. Water has heretofore been the only thing needed to make all branches of agriculture in this part of California an absolutely certain business. In all other countries, when calculating the results of unharvested or even unplanted crops, the chances of the weather must be taken into consideration. And it is really the most important factor in the calculation. Here climate and soil are always right, and water has been the doubtful quantity. My readers will, therefore, see why I have devoted so much time to the consideration and elucidation of the water question. It was the important question for this part as it is for the greater portion of the State. The rain-fall being small, and at times uncertain, a farmer should always be so fixed that he can make it rain when and where he pleases. The ability to do this, makes farming in this section a mathematical certainty. I shall now proceed to give, for the benefit of those who are seeking homes, estimates of the expenses of cultivation, ordinary crop yield, and profit of dif-

ferent crops, suitable for new-comers, who, of course, want immediate returns, which will furnish them a support, whilst their fruit and vine plantations are growing and have not yet begun to be productive, such as castor beans, corn, barley, alfalfa, potatoes and various descriptions of garden vegetables. I will state first, that in order to secure the best results on all lands there should be two ploughings, deep and thorough, before planting any crop. And this is particularly the case on new land never before cultivated. This is the practice of our best farmers, the men who always raise good crops; and when the cultivation is thorough it is sufficient to produce one good crop, of each of the above, nine years out of ten, without irrigation, the natural moisture and winter rains being sufficient. The irrigation is needed for the exceptionally dry years, and for the second and third crops in all years. With irrigating, cropping never stops. The farmer can raise as many crops here in one year as he can in two or three any where else. Life is short, but here we make the most of it.

### Castor Beans.

20 acres of beans, 1,500 lbs per acre, at  
\$75 per ton, 15 tons.....\$1,125 00

#### EXPENSES.

Two plowings.....	\$100 00	
Two harrowings.....	20 00	
Marking and Planting.....	20 00	
Seed.....	2 00	
1 man 3 mos. harvesting at \$40	120 00	
Sacks.....	50 00	
Hauling.....	30 00	
		342 00
Profit.....		\$783 00

If a man does all the work himself, as he could, the cash outlay would be only for sacks and seed. Cash is paid at the above rates upon delivery. This indicates a net profit of more than \$36 per acre; besides it is quite possible to raise a ton to the acre without increasing the expenses. The advantage of this crop is that there is no expensive machinery required. The crop has no insect enemies, and the price and demand are unvarying.

**Corn.**

20 acres of corn, 40 tons, at \$20 ..... \$800 00

**EXPENSES.**

Two plowings.....	\$100 00
Two harrowings.....	20 00
Marking and Planting.....	20 00
Seed.....	5 00
Husking and Shelling.....	120 00
Sacks.....	104 00
Hauling.....	80 00
	<hr/>
	449 00
Profit.....	\$351 00

Or \$17 50 per acre. If the owner does his own work, the only outlay would be \$109 for sacks and seed. The crop is a moderate one; 50, 60 and even 70 tons are often raised per acre on our best corn lands. This is also a crop where there is but little expense for machinery. It is not customary to cultivate corn, castor beans, or similar crops after planting unless they are weedy. If the preliminary cultivation has been thorough, there is no necessity for any after cultivation, unless in case irrigation is required, after which the ground must be plowed or cultivated to kill the weeds, and prevent baking. Many run a small stream in a furrow, in every 10th row, for six to eight hours. On most of our valley lands this will thoroughly wet a strip 10 yards wide, by underground seepage. As this does not wet the surface, it does not cause the growth of weeds nor require after cultivation.

**Barley.**

20 acres of Barley, 30 tons at \$20 ..... \$600 00

**EXPENSES.**

One good plowing.....	\$60 00
Harrowing.....	20 00
Sowing.....	5 00
Seed.....	14 00
Heading.....	40 00
Expense of Threshing.....	60 00
Sacks.....	98 00
Hauling.....	60 00
	<hr/>
	357 00

Net Profit..... \$243 00

Or \$12 75 per acre. If cut for hay, it will yield say 3 tons to the acre, and the expenses would be about \$50 less and the net results about that much more.

But as grain is always saleable and the demand for hay is limited, it is better to make grain. In most instances the above is a fair average of good crops. It will be seen that the machinery eats a large hole in the profits.

Although barley does not show as large a margin of profits as either corn or castor beans, still it pays to raise on the two crop system. It is a winter crop, and can be sown early so as to be cut for hay or grain. Then the ground is irrigated, plowed and planted in corn, potatoes, beans, etc. When planted in corn, the chances for a full crop are as good as if planted earlier. Our seasons are so long that the corn has plenty of time to mature, and if an early variety of corn is planted, it is quite common to raise a crop of beans afterwards—making three crops in one year from the same piece of land. The irrigation necessary to such a system of crops seems to keep up the fertility of the soil, for lands which have been cultivated on this system for years show no signs of deterioration.

**Potatoes.**

20 acres of Potatoes, 300 tons at \$20...\$6,000 00

**EXPENSES.**

Two plowings.....	\$ 100 00
Harrowing.....	20 00
Plowing and Planting.....	50 00
Seed, 100 cents.....	100 00
Sacks.....	1,500 00
Digging and Sacking.....	420 00
Hauling.....	600 00
	<hr/>

2,790 00

Net Profit.....\$3,210 00

Or \$160 50 per acre. I have placed both potatoes and seed at a low rate—the lowest they ever reach. They are now worth from three to five cents per pound by the cental, and as the ordinary price is from 1½ to 2½ cents per pound, it will be seen from this that there is a fortune in potatoes. The lands in the northern part of the State, which have been devoted to the cultivation of potatoes for the last 20 years, have become tired of them, and the crop is now small and inferior to



what it used to be. Our virgin soil is not only admirably suited to their growth, producing the very finest quality, and crops of such immense bulk, that I will not tax the credulity of my readers by stating them, but will merely say that the fifteen tons per acre, upon which the estimate is based, is not by any means a large yield. My plan in making estimates is to figure the expenses high and the profits low, and any margin of profit thus obtained may safely be calculated upon.

#### **Beans.**

20 acres of Beans, 20 tons at \$40.....\$800 00

#### **EXPENSES.**

Two plowings.....	\$100 00
Harrowing.....	20 00
Plowing and Planting.....	50 00
Seed.....	120 00
Sacks.....	86 00
Harvesting.....	100 00
Hauling.....	40 00

516 00

Profit.....\$284 00

Or a net profit of \$14 20 per acre. The cost of seed and sacks being the only item of expense, requiring a cash outlay, the actual returns to a working farmer would be nearly \$600 00. And as this is supposed to be a second or third crop, the pay is sufficient.

#### **GARDEN VEGETABLES**

Are raised here in the greatest variety and perfection, and the hardier kinds grow admirably in the winter. Gardening, like farming, never stops. At present there is a limit to the amount that can be sold fresh, but in one year the mining markets east of us will take all of our surplus products of every kind. Our future market is without limit, and the demand will come as soon as we can get ready for it.

### **FARMING IN SEMI-TROPICAL CALIFORNIA.**

#### **No. 2.**

#### **ALFALFA**

Is by far the most important and valuable of all the farming products, enumerated in the previous letter. Nothing

in the whole list of grasses, wild or cultivated, even approaches it in nutrition or productiveness. Our rich, moist valley alluvions are its natural home, but it will grow on any kind of land if properly prepared and sufficiently irrigated. In naturally moist lands, it requires little irrigation, but must be flooded even on these lands, as a protection against the gopher, once or twice a year. To make these floodings effectual, the land upon which it is sown should be laid out in level terraces, of a size proportioned to the size of the reservoir or head of the ditch water by which it is to be irrigated. These terraces should be surrounded by a bank of earth ten or twelve inches high, to retain the water within bounds when turned on. This somewhat increases the first cost of preparing the land, but is an immense saving afterwards, as the labor of irrigation is reduced to simply shutting the gates when the water has filled the pond or enclosure to the required depth, which, for irrigation, would be about two or three inches, but for drowning out gophers, if the ground is badly honeycombed by the pests, it might require six inches to fill all their large underground passages. This mode of treatment is always effectual, and extirpates them, but it cannot be done in any other way. Running water on the land, poisoning, and traps will reduce their numbers and keep them in check, but there are always enough escape to keep up the stock. But the terraced ponds extirpates them—there is no escape from such a sudden and overwhelming flood. The preparation of the land, when naturally level, only requires the reduction of the elevations and filling the depressions; but where lands have a gentle slope, the object is obtained by the use of a hill side plow, which throws all the furrows down hill. This process is continued until the high side is depressed and the lower side is raised to a level. A long strip of land can be leveled in this way, and then divided into ponds of a proper size, and provided with its proper system of

ditches and gates. If alfalfa is thus protected from its enemy, and properly and sufficiently irrigated, it is perennial in the most extended sense of the term. I am told that there are in Peru and Chili alfalfa fields that are 50 years old. It will be seen, therefore, that there is great economy in the thorough preparation of the soil for so permanent a crop.

When all of the before named conditions have been fulfilled, this crop is absolutely certain and unvarying. It is entirely unaffected by the conditions and circumstances which often destroy the crops of grain and fruit. Frost and cold may diminish the growth and product temporarily, but cannot materially affect the gross yield of the whole year. Under favorable circumstances the ordinary growth of alfalfa from March 1st to October 31st is one inch per day of twenty-four hours; and from November 1st to the end of February one-half an inch per day. This makes a total growth of 25 feet per year. It is usually cut at the end of each month, by which time it has attained a height of thirty inches, and is in bloom. This is on warm, sandy loams; on richer and heavier lands it does not bloom until it is from 3 to 4 feet high, upon which, although not cut so frequently, it produces even a heavier yield than on the lighter soil; but, as the latter is warmer, produces a better growth during the winter or colder months. The difference in the amount of annual production is not material, and is ordinarily estimated, in the country about Anaheim, at 15 tons of dry hay per acre. This may be considered a fair average yield in the valley of the Santa Ana, for a crop of alfalfa under the above conditions. This much is done on river bed sand, so poor and dry that without a thorough monthly irrigation for each crop, nothing would be produced, and the plantation would die out. But with sufficient irrigation with the muddy waters of the Santa Ana, these large crops are not only constantly obtained, but the land is all the time growing better from the heavy

monthly deposit of rich sediment—another proof that irrigated lands under constant cropping, not only do not deteriorate, but improve.

Alfalfa is preeminently valuable either for pasturage, soiling and for hay—in all these capacities surpassing all other grasses.

When pastured, one acre of alfalfa will sustain constantly 25 sheep. To do this to the best advantage the pasture should be divided into two fields, pasturing each alternately one week, whilst the grass in the other is growing. This is no surmise. It has been done, the sheep maintaining splendid health and yielding fleeces of remarkable length, and strength of fibres, and equally remarkable weight, notwithstanding its freedom from dust and dirt.

#### COWS.

One acre can and does constantly sustain three cows, knee deep in succulent green feed, the entire year. The cows fed in such pastures yield from twenty-five to fifty per cent. more milk, butter and cheese than the same cattle will on any other kind of feed. The importance of this fact to dairymen, can hardly be estimated.

#### HORSES

Fed on green alfalfa are constantly fat and healthy, and are equal to ordinary work, only requiring grain when worked heavily.

#### HOGS

Grow rapidly, thrive, and grow fat on alfalfa alone, when either pastured or soiled, and even when confined in pens, are always in perfect health. When fattened on grain, if they can have daily an allowance of green alfalfa, they will never lose their appetites, or get sick.

#### SOILING.

When alfalfa is in bloom, it is supposed to contain the largest amount of nutriment, and consequently the most economical and advantageous way to feed it, is when cut at that stage, either green or slightly wilted, or cured as hay. It is the opinion of those who

have had large experience in feeding stock upon it, that when allowed to mature, each acre will sustain at least doubly the quantity of stock that it will when pastured. The grass or hay contains more nutriment, and as each animal pastured has five months, nothing is lost by tramping. The extra expense of cutting and hauling is treble compensated by the increased quantity of food obtained.

#### SEED.

This grass is extensively cultivated at San Bernardino, principally for hay and seed, the latter being in great demand at high prices, often yielding from one to two hundred dollars per acre, besides yielding a large crop of hay, in addition to the threshed straw which is also used as hay, being considered equal to hay.

#### COST OF PREPARING 20 ACRES OF LAND FOR ALFALFA.

Leveling, 3 plowings at \$2½ per acre.....	\$150 00
Scraping, at \$2½ per acre.....	50 00
Ditches.....	50 00
Gates.....	100 00
Seed, 400 lbs at 2 cts.....	80 00
Brushing in.....	20 00
Total.....	\$450 00

Or \$22 50 per acre. This would be a high rate if done by contract, but if done by the farmer himself the only outlay would be for the seed. The best quality can be obtained at the price named. Lands suitable for alfalfa can be obtained near Anaheim at prices ranging from \$20 to \$40 per acre, in the artesian well belt, and from \$40 to \$60 in the ditch districts.

Take \$20 as the average price of land, and \$20 as the cost of preparing and seeding. Then the actual cost of the land to the farmer per acre will be \$60. And the cost of land per sheep, at 25 sheep per acre, will be \$2 40; and the cost of land per cow or horse at 3 of each per acre will be \$20; or of hogs at 20 hogs per acre would be \$3. If this is compared with the price of land, and the cost of sustaining the same amount of stock equally well, on other lands and other feed, the comparison

will be found immensely in favor of alfalfa. I have strong doubts if there is any product of the soil in California that is so reliable or which will pay equal returns on the investment with the same certainty—this word certainly expresses the idea exactly. This crop is absolutely certain, and no other can be considered equally so. Another advantage is that after the first cost, but little labor is required. This is a great recommendation in California, where reliable labor is so scarce, and where wages are high. The cost of labor is what eats up the profit of farming. Let a man have plenty of alfalfa and he can have an easy fortune out of stock, and be entirely independent of bad seasons, or any other calamities.

#### FARMING IN SEMI-TROPICAL CALIFORNIA.

##### ALFALFA.

Many who have been in the habit of pasturing sheep and other stock on the natural herbage, object to the cultivation of alfalfa on account of the expense, when the fact is, that it is cheaper to purchase, prepare and sow the land in alfalfa, than to purchase natural pasture lands.

##### SHEEP.

I will estimate the cost of an acre of alfalfa, prepared as described in my previous letter, at \$50. This acre will feed 25 sheep constantly; consequently the cost of land per sheep is only \$2 per head. On the other hand, of the natural pasture lands that can be bought for say \$1 50 per acre, it will take at least three acres to keep one sheep, on a good average season. On a dry year it often happens that 20 acres will not keep a sheep; these lands being dependent on rain, which is somewhat uncertain in all parts of California, and particularly so in Southern California. The large ranchos, that are sometimes sold at the above low rate, have generally a very large proportion of worthless



land. In buying large tracts, the purchaser pays for a large area that he does not want, to get the little that he does. Land at \$1 50 per acre, 3 acres per sheep, will cost \$4 50 per sheep, as against \$2 for alfalfa, with the chance that one year out of three will be dry, and nothing will grow on the land at all. If a better quality of land is selected, say 2 acres to one sheep, the cost will be \$2 50 to \$3 per acre, making the cost \$5 or \$6 per sheep. If land is selected where an acre will sustain a sheep, the cost is still greater. Such lands are generally arable, and worth from \$10 to \$30 per acre. In this section the question has narrowed down to this: the owner of sheep must make his choice—it is alfalfa or the desert. The more intelligent of the sheep men recognize this fact, and are sowing alfalfa extensively; whilst the others, the natural pasture men, are many of them, even now, facing the dust storms of the desert, where their losses from the depredations of wild animals, and other causes, and the heavy cost of transportation, will be twice greater than any advantage they may gain by the saving in rent, or cost of land. The wool is dirty, and full of foul seed burrs, etc., and consequently brings a low price. On the other hand, the alfalfa man's wool is free from dirt, and is first-class in every respect, clean, with a long and strong fibre, and commands the highest price. He, moreover, lives like a civilized being, and the other like a savage. Alfalfa is not only cheaper, but better in every respect.

#### COWS DAIRYING.

Dairy cows (unlike sheep) cannot rough it. No dairy can be successful unless the cows have abundance of the very best and most succulent food, to keep the yield of milk, butter and cheese at the highest possible rate of production. To do this a constant supply of green feed is required. Natural pastures are generally green about one-half the year. The grasses being with few exceptions, annuals, they ripen and become dry, when they

arrive at maturity, and the cows fed upon them in the dry state, rapidly fail in their milk and become fat. The dried grasses, being full of seed, are very fattening, excellent for beef stock and horses, but bad for milking stock.

On Point Reyes, where, owing to the constant fogs which prevail, much of the grass remains green for most of the year, it takes ten acres of land to sustain one cow on the natural produce of the land. These lands and their fences are worth probably not less than \$50 per acre. These are considered the best dairy lands in the northern part of the State, and the best are always the cheapest; consequently it costs \$500 for land for one cow. In many places land can doubtless be bought for less money, but they are either inferior in production or are distant from market, or there is some other equally good reason for the difference in price. The difference in the cost of land per cow, between natural pastures and alfalfa, is as follows:

Natural pastures, one cow to 10 acres, at \$50 .....	\$500 00
Alfalfa, at 3 cows per acre, at \$50 .....	17 00

Difference in favor of Alfalfa.... \$483 00

If the cattle are soiled, the difference will be still greater, as each acre would support six, and all necessity for fences would be avoided, with the exception of the enclosure where the cows are kept. The soiling really costs nothing, as one man must necessarily be kept for every 20 or 25 cows, and he can cut and haul the grass for them in the interval between the morning and evening milking.

Notwithstanding this immense difference between the cost of land, the difference between the cost of dry and green feed is still greater. The dairyman, who depends upon the natural grasses, must necessarily manage so as to have his cows fresh at the commencement of the rainy season, and, as at that time every one has green feed, the price of dairy products, which had been high during the dry season, immediately falls. Now, the alfalfa

dairyman can either let his cows come in fresh at all seasons of the year, and keep his dairy running constantly, or he can manage so as to have his cows fresh just at the season when other dairies are drying up, and thus secure the cream of the season, when prices are always high. With alfalfa, the dairyman is master of the situation.

I will say in this connection that there are thousands of acres of natural evergreen pastures in Los Angeles county that will sustain from one to five cows to the acre during eight months of the year. They are not so good in the winter as in the summer, being too wet and cold. These are very much superior to the ordinary natural pastures, and they are not found in any other part of the State. The principal grasses growing on these lands are perennial, and form a heavy, permanent sod. Cows, and also sheep and horses, do admirably on these lands; the two latter, however, prefer the annuals when they are abundant.

#### HOGS.

Dairying and hogs are inseparably connected. Many dairymen pay the current expenses of their establishment by the sale of hogs that have fattened on the sour milk and whey of the dairy. But now I propose to consider the hog question on its merits, as a distinct branch of farming. Cattle and sheep cost money, and, compared with hogs, they increase slowly, and it takes a considerable capital to go into either business; but, on the other hand, hogs increase and multiply so rapidly that a poor man with a few head generally finds that his stock increases faster than his means of feeding them. It is my confident belief that a system of farming, where hogs consume all of the produce of the farm, is the most profitable of any of the plans of which I have heretofore treated. Alfalfa is the basis of the system; this grass, either pastured or soiled, (both plans are good) will keep the hogs fat, and in a fine, thriving and growing condition all the year. Barley is sown, and when sufficiently mature,

portions of the crop are enclosed by a movable fence and the hogs turned upon it. The hogs will harvest, thresh and sack all of the barley without expense to the owner, and, if need be, will walk to market afterwards. If roots are planted, they will harvest them in the same way. The corn only requires husking and cribbing; the hogs save all the expense of shelling and sacking, and, as in the case of the barley, make no charge for it. They are the best labor-saving machines ever invented, with the advantage that they don't wear out, nor require repairs, if the proper arrangements have been made for controlling their movements. No kind of stock are so profitable, nor so little trouble, nor any that require so little capital to commence with. It is unnecessary to go into the details of the profits of hog-raising; where food is abundant, it is well-known that they are very profitable. With alfalfa, barley, corn, roots, pumpkins, peas, artichokes, etc., there is no limit to the amount of food that can be cheaply and certainly produced.

In the last three letters I have endeavored to show that the men of small means, who form the bulk of our immigrants, can have in this section no difficulty whatever, not only in making a living, but, if they are industrious, in making money by farming, pure and simple; and as their wants were immediate, I wished to show that there were plenty of crops that would make immediate returns. After present necessities were provided for, they could proceed to raise stock, that require more time to mature and return a profit, such as horses and mules; or go into the cultivation of semi-tropical fruits and vines, as well as those of the temperate zone, all of which are very profitable, but require time for growth and development before yielding a profit. Having settled the living question, I will proceed in my next to give estimates of the cost and profit of the cultivation of fruits, vines, etc.

## FARMING IN SEMI-TROPICAL CALIFORNIA.

### No. 3.

#### BRANCHES REQUIRING CAPITAL.

Horses and mules can be fed on alfalfa in just about the same proportionate numbers per acre as cows, either pastured or soiled; and when fed liberally with it, either in the green or dry state, they are constantly fat, and maintain their good condition without grain when worked at the ordinary labors of the farm. It is a particularly desirable food for young growing stock, maintaining them in fine, thrifty, growing condition, not being heating like the grain hay, usually fed. All kinds of stock-men, who have tried alfalfa, give it the preference over any other kind of grass for a permanent and reliable dependence. Breeders of good horses, mules and cattle, will find that they can raise much finer animals upon the abundant, nutritious and constant supply of food furnished by alfalfa than by depending upon the uncertain growth of our natural pastures. In the one case the supply of food is constant, and in the other it is alternately "a feast or a famine." If fine animals are to be produced, it is necessary that they should at all times be kept in fine condition, insuring a steady and regular growth, and consequently a perfect development of all their parts. When the railroad connection between this valley and San Francisco is made—and it will be in eighteen months from this time—our alfalfa pastures during the winter will supply all of the fat cattle and sheep required for that market. The winter climate of the northern part of the State is too cold for the growth even of alfalfa, which is hardly checked here. The stock-man will purchase his stock during the summer, and turning them into his alfalfa pastures, will have them fat and ready for the San Francisco market when the prices are the highest, and, when from the small cost at which his stock has been fattened, he can make a handsome profit, and

still undersell the more costly stalled cattle of the north. He can, moreover, keep them at home without expense until sold. When stock are scarce and in demand, the purchaser always comes to the seller.

Although alfalfa can be, and is, successfully raised in other parts of this State, there is no other part where the winter growth is at all comparable to what it is here. This gives the stockmen here an immense advantage. With our fertile soil, abundance of water for irrigating purposes, and extremely mild climate, the growth of grass is constant, and those who wish to embark in the stock business on a large scale, can here find greater advantages than in any other part of the State. Those who are looking for the best stock county in the State, will surely find it here.

#### FRUITS AND NUTS.

Fruits of all kinds, both temperate and semi-tropical, flourish here, and many kinds are profitable for cultivation. The peach grows here in the greatest perfection. Instead of being a short-lived tree, which becomes diseased and dies after bearing two or three crops, as in the country east of the Rocky Mountains, or six or seven crops, as in the northern part of this State, it is here a long-lived tree, growing to a great size, and bearing enormous crops of the finest quality of fruit. We have trees in Anaheim 12 to 14 years old and 10 to 12 inches in diameter, that not only show no signs of decadence, but annually require their branches to be "shortened in," to check their too vigorous growth, and check their tendency to bear too large crops. This crop is very certain, the present year being the only failure in many years. The present crop was destroyed by a frost, produced by a six degrees lower temperature than had ever been known here at any season of the year before, and which occurred whilst the trees were in blossom.

The peach is profitable either in its fresh, ripe state or when dried. For the former the demand is in many



places limited, but in the latter state there is no limit but production, particularly when dried by the modern artificial processes now in vogue. These are not only cheaper and more expeditious than sun-drying, but the quality of the product is greatly superior, selling for one or two hundred per cent. more than the ordinary sun-dried. I have no data from which to estimate the produce of an acre of peach trees, but will only say that I have never seen trees anywhere yield anything like the constant and enormous crops they do here. And, although our present market for fresh fruit is small, there can be no better place for growing and preparing the dried fruit, which is good in proportion to the quality of the fresh fruit from which it is made. Transportation, which is an important matter in fresh fruit, loses much of its importance when, by drying, the fruit is reduced to one-tenth of its former bulk and weight. Consequently fruit for drying should always be produced where it grows and ripens to the greatest perfection. I consider the growing and artificial drying of northern or temperate fruits is destined to be a very large business in this section, and one that will be permanent and profitable.

#### APRICOTS AND NECTARINES,

Belonging to the same genus as the peach, do equally well, being great bearers and of fine flavor.

#### APPLES AND PEARS

Are very certain and large bearers, and produce fruit of the very finest quality, equal to any of the same varieties in any other part of the State. These, being easier to keep than peaches, and bearing transportation better, there will, of course, be a chance to dispose of a larger quantity in their fresh state, but I take it that those who grow them largely will do it mainly for the production of dried fruit, this being a business not requiring a very large capital, but one in which the results are certain and satisfactory.

#### PLUMS

Of certain varieties bear extremely well, and are of fine flavor both for drying and preserving. But I do not know if all varieties of the plum do equally well. Fruit raising, like most branches of improved farming, is comparatively in its infancy in this recently settled country.

#### STRAWBERRIES,

When properly supplied with moisture, bear constantly throughout the year, and when planted on warm, sandy loam, cannot be excelled in flavor. This is an excellent crop for drying, the dried product selling for a high price.

The other small fruits, such as currants, blackberries, raspberries, and gooseberries, where tried, have done well, but the limited market for the sale of fresh fruits, heretofore, has prevented their general cultivation, but for drying purposes they will do admirably.

#### GRAPES

Of all kinds grow, thrive and produce abundantly in all parts of this favored State; but it is claimed, and I think justly, that they here acquire a finer flavor, yield a larger crop, attain a greater size and make a better flavored raisin or wine than in the other parts of the State. It is very certain in any event, that no part of the State can excel us in the production of either grapes, raisins or wine, either in quantity or quality. The quality of the grape, cultivation being equal, is due to the soil and climate, but the superior quality of raisins or wine is due partly to the kind and quality of the grape and also more particularly to the skillful manipulation of the manufacturer of each; the raisins or wine are good or bad according to the skill of the producer.

We cultivate many varieties of the European grape, but the one that seems to combine more desirable qualities than any other is the White Muscat of Alexandria which is an early and prolific bearer and ranks first-class as a table, wine and raisin grape, no other

single variety possessing all of these desirable qualities in equal proportion. Most varieties will not bear until the third year from the cutting, but the Muscat bears a half crop in the second year. Several vineyards in the vicinity of Anaheim have produced an average of seven pounds to the vine in the second year from the cutting. At the usual number of vines to the acre, say 1,000, his is seven pounds of grapes per vine, or 3½ tons, which is decidedly better than no crop. These vineyards received ordinary care but were not neglected. These, of course, are exceptional instances; vines generally produce a half crop the third year and a full crop on the fourth year. The general calculation is that the profit on the crop the fourth year will pay for the land, cuttings, planting and all other expenses up to that date, the vineyard costing the proprietor nothing but the annual expense for labor. Plenty of good grape land can be bought at prices ranging from \$10 to \$30 per acre. I will take \$20 as the average rate per acre. The vine does not require irrigation in any part of this State, and if the vineyard is planted without it, the roots are sent deep in the soil, and being constantly in contact with the natural moisture in the soil, the vine becomes independent of either rains or irrigation. At all events it is certain that they do it here.

#### ESTIMATE.

20 acres Grape Land, at \$20 per acre .....	\$400 00
1,000 cuttings and planting .....	210 00
2 good plowings and harrowings .....	100 00
1st year labor and board of 1 man, six months at \$40.....	240 00
2d year " " " " " " " " .....	240 00
3d " " " " " " " " .....	240 00
4th " " " " " " " " .....	240 00
Cost of picking grapes 4th year.....	250 00

Total cost of vineyard .....\$1,920 00

In estimating the crop, I will take 15 lbs as the average produce of the vine, making seven and one-half tons per acre, or 15,000 lbs of grapes at 1 cent per pound, or \$150 per acre, making for 20 acres.....\$3,000 00

Leaving a balance in favor of crop of \$1,080 00

And making no account of the third year's crop, which is always good for expenses. The price, 1 cent per pound, is always realized in Anaheim for what is known as the old mission grape. Foreign grapes are worth, for wine-making, at wholesale, 1½ cents per pound; but as most of our wine-men are also vine-growers, they realize more than double the profit above stated. But suppose we take the produce of an acre of muscat grapes at, say 15,000 lbs, 3lbs of these grapes produce 1lb of raisins, or 5,000 lbs, per acre, worth at wholesale, say 10 cents per pound (they are sold at from 15 to 25 cents). This would be a gross yield of \$500 per acre, which would leave a liberal margin for profit after deducting the expenses of picking, drying and marketing.

### FARMING IN SEMI-TROPICAL CALIFORNIA.

#### No. 4.

#### THE FIG

Is a tree of rapid growth and great capacity for producing fruit. In this section it is very hardy and bears regularly two crops of figs in each year, the first ripening in the early part of summer and the other in the early fall. The production of the dried fig of commerce has not been attempted very generally in this country, but, as in no other country is the tree grown, or the fruit produced in greater perfection than in Semi-tropical California, there is no reason why the cultivation of the fig for drying purposes should not become a profitable business. It has this important fact in its favor, that it bears a second crop, consequently the cultivator is sure of one crop in any year, and of two, in five years out of six, possessing this advantage over the other fruits already enumerated. I do not know of any fig orchard that has been planted for the purpose of drying, nor of any person who has gone into the business; but when the yield is so large and certain and the quality so fine, there cannot be the least difficulty in producing

dried figs equal to the best dried fig of commerce. The reason why this business is as yet untried, is that it is one of a thousand other industries that remain untried simply from want of population. Those who are here find so many branches of farming which are tried and proved to be paying, that others, that would probably pay much better, are neglected. The development of any new country depends upon its population and capital.

#### COST OF A FIG ORCHARD.

5 acres of land, with water right, at \$50	
per acre. ....	\$250 00
Plowing, harrowing and preparing the	
land, \$5 per acre. ....	25 00
250 yearling fig trees, at 10 cents each. .	25 00
Total Cost. ....	\$300 00

I make no estimate of the cost of after cultivation, because the profit of the potatoes, beans and crops of a similar character, raised on the land during the next two years, will not only remunerate the owner for the cost of cultivation but will yield a handsome income besides. The tree begins to bear during the second year, and by the fourth will yield a considerable crop, increasing yearly for an indefinite number of years. I advise the planting of only fifty per acre, because the tree grows rapidly to a great size. Trees in Anaheim of 14 years are 15 inches in diameter in the trunk, with limbs covering a circle of 30 feet in diameter. When trees grow to such a size in so short a space of time, 50 per acre is probably too many and 40 would probably be sufficient. I have, as I have before remarked, no data for estimating the value of the crop, but they bear profusely; and I am certain that in the near future this tree will furnish in its dried fruits an important part of the productions of this section.

#### THE ORANGE

Is perfectly hardy in this section, and during the past fifty years there is no evidence that frost has affected the mature bearing orange tree in any manner whatever. If the orchard is of reasonable size the annual yield varies

but little. When a tree is permitted to over bear on any one year, its energies are exhausted in perfecting the crop, and produces little or no bearing wood for the following year, consequently the crop of the succeeding year will be light; but as all the trees do not bear full on the same year, the average yield is preserved. The better plan is to pick off all the excess, and only allow a tree to produce a fair average, as the quality of those permitted to remain will be very superior and sell for a larger price than if the whole had remained and ripened, and then the tree has sufficient energy to produce the requisite bearing wood. This industry has been tested and is well established. The orchards planted by the few men of enterprise living in this section 15 or 20 years ago, are yielding princely incomes to their proprietors. The profit on an orchard, that has been well cultivated and well managed, upon its cost, is, notwithstanding the fact that it is well authenticated, and cannot be doubted, seemingly fabulous; but then we must remember that the men who planted these orchards, had to wait ten long years from the time they planted the seed, until the tree produced any return, and two or three years longer before they could reasonably expect a large crop. At this time money brought a high rate of interest, and capitalists preferred to loan their money rather than invest it in orange orchards and wait ten years for a return. The trees then planted were natural fruit, but now the planter can buy two, three, four or five year old budded trees that will be in full bearing in half the time stated above. These trees cost money, but the great saving of time warrants it; besides, budded trees are certain to produce the same first-class fruit which the tree from which the buds were taken did. Seedling trees vary materially in this respect, but although the fruit varies considerably in size and flavor, still none of them fail to produce good marketable fruit. Many persons have an idea that orange orchards can only



be planted by the rich, but I will endeavor to show that this is a mistake. The land upon which they are to be planted should have a water right, not only for the purpose of irrigating the trees, but also for the purpose of destroying gophers, if there happen to be any in the ground. These pests have a passion for the best things in the vegetable kingdom, consequently they *gopher* the roots of both alfalfa and the orange. A good flooding of the land, once or twice a year, destroys them and they give no trouble.

The cost of an orchard of orange trees is about as follows: the land may cost from \$50 to \$500 per acre, just as the buyer elects; but it need not necessarily cost more than \$20 or \$25 per acre. I will take \$50 as the price of the land. The trees (seedlings) cost by the quantity—say from 100 up to any number—1 year old, 2c; 2 years, 15c; 3 years, 30c; 4 years, \$1; 5 years, \$2; 6 years, \$3 to \$3 50; 7 years, \$4 to \$5 each. It is to be understood that these are average trees—taken as they come. Selected trees command a higher price.

Budding is usually done on the seedling at the age of two years (it can be done at any age afterward) and the age of the tree is afterwards counted from the age of the bud; consequently a tree one year from the bud is 3 years old, and is worth \$1 00; 2 years, or \$2, 3 years, \$3 to \$4; but the owner of seedlings can hire them budded at a small cost per tree. The rich man will save time by buying of the nursery-man the trees, just as he wants them. He knows that the profit on them will be so disproportionate to the first cost, that a difference of \$500 or \$1,000 in the cost of an acre is a small matter compared with the saving in time. The poor man, who has more time than money, will buy yearling trees at 2c, and plant them in nursery form. At the end of a year, if he lacks the skill, he will employ an expert to bud his trees. This costs but little. At the end of a year the trees should be planted where they are to grow; and here is where most men

make their mistake. They plant their trees too close together. They should not be planted less than 30 feet apart. At that distance, when 20 years old, they will shade the ground completely, which is a disadvantage. I would advise planting 40 feet apart, but will make my estimate at 30 feet, or 50 trees to the acre.

5 acres of land, with water right, at \$50 per acre.....	\$250 00
Two plowings, harrowings and preparing the land.....	25 00
50 budded trees, 1 year from the bud, at \$1.....	250 00
First cost.....	\$525 00
4 years interest at 10 per cent.....	21 00
Cost of orchard in full bearing ..	\$546 00

I make no provision for after cultivation, because the crops of garden vegetables, melons, potatoes, beans, etc., raised upon the ground, will pay the cultivator a handsome profit. Shallow-rooted plants do not interfere with the growth of deep rooted trees, but grain crops should never be grown among trees. If corn is planted, it should be only in the middle of the intervals, and should not shade the trees. This seems a trifling expense, as the cost of so valuable a property; but a poor man can, by waiting two years longer, reduce the cost more than 50 per cent., making a saving on the price of land and also on the cost of the trees.

It is evident, therefore, that an orange orchard is something easily attainable by the man of little or no capital, and is not a monopoly of the wealthy alone. The ordinary yield of a seedling orchard of 12 years or a budded orchard of 8 years will be, say 1,000 oranges per tree. At 50 trees per acre, the yield will be 50,000 oranges, which at \$10 per thousand, will be \$500 per acre, or \$2,500 income on a first cost of \$546. I have made no account of the fruit borne on the two previous years, the sale of which has already paid the first cost of everything; consequently this \$2,500 is all profit, except the trifling cost of cultivation and watering the orchard. And here I will state

that the price named is probably the lowest rate, that oranges of good quality will ever sell at here on the tree (the wholesale dealers buy them on the tree.) The present rate ranges from \$10 per thousand for inferior to \$30 per thousand for the best quality and \$20 is the average rate for fair medium quality. Referring to my previous calculation, it will be seen that at the present time the orchard would have returned, at present prices, not \$2,500, but \$5,000. Three years later the same trees would average 2,000 oranges each, or, at present rates, \$10,000 in cash. These are the fabulous returns that are actually rewarding the enterprise of the men who planted the first orchards. But, however difficult to believe, these are actual facts. There is no danger of over production. The growth of our Pacific Coast States and Territories are an ample market for all that can be produced. When I come to treat of our markets this will be fully explained.

#### THE LEMON AND LIME.

What I have said about the orange, applies with equal force to the lemon and lime. The lemon has this advantage over the orange and the lime: that it is propagated from the cuttings with as much facility as the willow. The cuttings from bearing wood bear at 5 years, and bear heavily at 7 years. It is long lived, and a tree of vigorous growth, and requires a severe cutting back each year. Although the principal part of the annual crop ripens during the winter and spring, still the trees are blooming and fruiting at all seasons. Cultivators, I believe, consider the lemon more profitable than the orange. The fruit not being so perishable, can be sent in its ripened perfection to distant markets.

The lime is a smaller tree than either of the preceding, and should be planted about 20 feet apart. It commences bearing about the fifth year from the seed, and yields a continuous crop ever after. 15-year-old lime trees in Los Angeles have yielded fruit to the value of \$100 00 each in a single year. They

are consequently very profitable. The wise cultivator will not devote his entire attention to any one variety of the fruits I have enumerated, but should plant some of each. It is impossible that there should be a failure of all in any one season. Consequently by cultivating a variety of products, he is sure of a good return in any year.

### FARMING IN SEMI-TROPICAL CALIFORNIA.

No. 5.

NUTS.

The almond has been sufficiently tested in California to prove that the tree is vigorous, hardy and a prolific bearer of first quality nuts. This is more particularly true of the Langue-doc and other soft shell varieties. The hard shell varieties, which were first planted in Los Angeles county, although healthy, vigorous trees, do not bear large crops. The reason probably is that all varieties of almonds bloom very early in the winter, at a time when even in this climate, frosts occasionally occur; and although these frosts are light (the thermometer never having fallen below 28° Fahrenheit, except on two days last April, during the last twenty years) they are sufficient occasionally to blight the bloom or destroy the tender young germs just set on. It has been found however, that by budding the almond on the peach, which blooms later, the risk of injury from frost is almost entirely avoided, and nurserymen use the peach stock almost entirely. Heretofore the extensive cultivation of the almond has been principally confined to that part of the State lying to the

north of what I have defined as semi-tropical California. The probabilities are that it can be profitably cultivated wherever the peach tree can; but whether the almond will be as short lived as the peach is in most places is not yet ascertained, but it is an important question for those localities. Here no man will ever find it necessary to renew his plantations of peach or almond on account of their failure to bear from old age.

In those parts of the State where the semi-tropical fruits do not flourish, the almond has been adopted as a profitable substitute. Gen. Bidwell, at Chico, near the head of the Sacramento valley, has a large orchard which produces almonds of the finest quality. There are also orchards in the counties lying on the bay of San Francisco, but probably the largest plantations in the State are in the county of Santa Barbara, where Messrs. Hollister, Cooper and others have planted the almond very extensively, with every probability of a profitable return. The few trees in this county that are old enough to bear, yield good crops of first-quality nuts, and afford encouragement to those who have planted extensively. To give an idea of the vigorous growth of the almond in this valley, trees half an inch in diameter, planted in March, 1874, measured four inches in diameter in July 1875, (16 months) and this without irrigation or anything more than ordinary care. If that rate of growth is continued many years it will be necessary to give these trees plenty of room, and I think they should be planted not less than 30 feet apart or 100 to the acre. As the tree does not need irrigation, abundance of good land for almond culture can be had at prices ranging from \$10 to \$40 per acre. When trees are to be grown without irrigation the previous preparation of the land should be thorough and to secure the best results the land should not only be thoroughly plowed but also subsoiled. For reasons already given, I should advise the selection of trees budded on peach stocks

at say 18 months from the seed. These should remain in the nursery one year after budding. The trees would then be about 3 years old and should not then cost more than 20 or 25 cents each for the very best varieties.

#### COST OF FIVE ACRES OF ALMONDS.

5 acres of land at \$20 per acre .....	\$100 00
2 plowings and 1 subsoiling at \$10 per acre.....	50 00
100 trees at 25 cts. each.....	250 00
Planting, at \$5 per acre.....	25 00
	<hr/>
	\$425 00
Two years interest at 10 per cent.....	85 00
	<hr/>
Total cost of orchard, at 5 years....	\$510 00

The second year after planting, the trees will bear sufficient to pay the expense of cultivation, provided no crop was raised on the ground; but on and after the third year, a good and constantly increasing crop may be expected. I am aware that the custom is to plant from 25 to 50 per cent. more trees per acre than I have estimated; and possibly on poor soil, where the trees do not make much growth, they may not be too much crowded, but in this section, where land is cheap and good, it is better to secure the best results from each tree by giving them plenty of room, than to be forced to dig up and destroy valuable trees because they were too crowded, by an inordinate greed for gain. The roots of trees require sunshine as well as the leaves, and space should be left for the sun to warm and renovate the earth with its rays.

Parties, conversant with the profits of almond culture, say that they will pay handsomely if two good crops can be secured in each five years. That they will pay is pretty evident; or at all events some men have faith that they will, as Col. Hollister, of Santa Barbara, has an orchard of 25,000, and Mr. Cooper, of the same place, has also an orchard of 12,500 almond trees. Men of their known business sagacity would not have gone to the enormous expense required to plant and cultivate such large plantations unless they were sure. The almond can scarcely be classed among perishable products,



and its sale is not confined to any particular locality; it has the whole world for a market.

#### THE WALNUT.

By this term is meant the tree commonly known as the English walnut, or the walnut of commerce in semi-tropical California. These trees acquire a growth and vigor which I have seen nowhere else. Trees in Anaheim, that have had little or no care, 14 years of age, have attained such a size that they measure 42 inches in circumference around their trunks, and shade with the spread of their branches, a circle of 35 feet in diameter. These trees, with ordinary care and attention, begin to bear nuts at nine years, and at twelve years will produce 100 lbs of nuts per tree; at 16 years 200 lbs of nuts per tree, and so on with a corresponding annual increase. The immense and rapid growth of this tree requires plenty of space for its best development; they should not be planted less than 60 feet apart, as at that distance their branches will probably touch by the time they are 20 years old. This tree is valuable from the fact that the nuts are of very large size and flavor. They will bear transportation, and the crop is one that may be considered absolutely certain. Besides planting in orchards, it is an excellent plan to plant these trees along roads and outside boundaries of other orchards, as, being deciduous, it makes shade in summer when it is wanted, and none in the winter when it is not wanted. Besides, its large top and broad spreading branches break the force of the wind from the orange, lemon and other trees, when they are loaded with fruit. To give an idea of the profit of these trees: 40 trees per acre, 12 years old, yielding 100 lbs of nuts each, would amount to 4,000 lbs. At 10 cents per pound, the wholesale rate, it would be \$400 per acre. There is also a great demand for these nuts, when half grown, for pickling. At this stage they will weigh about double what they will when mature, and bring an equally high rate, the pickled article having a fine flavor and

being in great demand.

The black walnut, or the native walnut of the Atlantic States, has been tried in California and grows and produces well. The nut has but little commercial value, but the wood is in such demand for cabinet work that it would undoubtedly pay to plant it in forest for its timber. This is particularly the case in California, as our growing season lasts nearly the whole year, trees make timber twice as fast as in the Atlantic States.

The chestnut, pecan and shell bark have all been tried in California. They commence bearing at an early age, compared to other countries, and thrive admirably. Their nuts have a commercial value and their cultivation will undoubtedly pay for nuts alone.

#### THE OLIVE

Thrives almost all over this State, being a hardy and vigorous tree. At all the old Missions the old trees are to be found of very large size, bearing yearly heavy crops of fruit. The tree is propagated by cuttings, quite as easily as the willow and after the second year requires little or no care. At the age of seven years it commences to bear, and the crops continue to increase with the increasing growth of the tree for hundreds of years. The fruit is used for pickling and also for making oil, and the crop pays now at the present high rate for labor; and as in the usual course of new settlements, the cost of labor diminishes with the increase of population, the olive will doubtless prove one of our most profitable productions. The fresh oil sells readily at \$5 per gallon at wholesale and the difference between the genuine olive oil of California, and the lard oil of Cincinnati exported to France and returned to the United States, in bottles with fancy labels under the guise of olive oil, is decidedly marked.

## FARMING IN SEMI-TROPICAL CALIFORNIA.

No. 6.

### HOPS AND TOBACCO

Are two other products that do well in most parts of the State and which seem especially adapted to our soil and climate.

#### HOPS

Have been tested in two localities in this section with extremely favorable results. Last season, plants of the second year, near Anaheim, produced at 32½ cents per pound, over four hundred dollars per acre. The quality of the product is first-class; the effect of our equable climate in the gradual ripening or maturing of all kinds of plants is such that they arrive at a perfection which they do not attain in the more rapid maturation of other climates and shorter seasons. The expense of cultivating hops consists in the cost of plants and poles and the preparation of the ground. The first year the yield is expected to pay expenses; on the second, the crop is large and continues annually to increase. In this section the crop seems absolutely certain and the only uncertainty about the crop seems to be the market price, which ranges from 60 cents per pound down to less than the cost of gathering and preparing the crop. California hops have this advantage, however, one pound being considered equal to three pounds produced elsewhere. Notwithstanding the above mentioned uncertainty, the immense margin of profit, in seasons of favorable prices, is such that all those who have gone into hop culture and stuck to it have got rich; still, as the market is sometimes uncertain, it is safer to make the hop crop one of many others. The prudent farmer cultivates many crops, some of which are sure to pay and to make up for the deficiencies of the others, and does not "put all of his eggs in one basket."

#### TOBACCO

Has been cultivated in California

since its first settlement by the Spaniards, more than a century ago, and is perhaps, one of the most certain and productive crops that are cultivated. Its production is in fact so easy and certain that it would now be one of the great staples of the country, but for the fact that the difference in our climate necessitates a variation from the established processes of curing that are in vogue in the countries where it is now a staple production, or in other words, the curing process has got to be adapted to the climate.

The Culp process, by means of which the Consolidated Tobacco Company of Gilroy cure their tobacco, seems to be a decided step in the right direction. As a test of its quality, tobacco cured by this process was sent to the Louisville, Ky., market and sold from 80 to 100 per cent. higher than any other tobacco in that market. Quality is everything in tobacco, and it is believed that when the process of curing has been perfected, that California will attain the same preeminence in the production of tobacco that she already has in the production of wheat. The tendency of our climate and soil is to perfection both in the animal and vegetable kingdom.

Tobacco makes in Semi-tropical California a most remarkable growth, plants having attained a size of from 8 to 10 feet in height with leaves 3 feet long by 20 inches wide, which when dried, were as thin, soft and pliant as a fine kid glove.

Here the plant is perennial and yields three cuttings in each season. More than 3,000 pounds per acre have been produced on a tract of 8 acres in Anaheim, and this rate of production can reasonably be calculated upon on good soil any where in this section. The plant may be said to have no enemies; the worm does but little damage and the crop is destined to become one of our great staples when the curing process is perfected, which is as yet far from having been done.

The certainty of such a large yield, together with the high price and

limitless market for first-class tobacco, will, when the best system of curing has been perfected, make tobacco the most profitable crop of all those which have been enumerated. Think of a crop which will produce a gross yield of more than one thousand dollars per acre, which can be cultivated and grown up to the point when curing commences at but little more expense than that of a crop of corn. The inventor of that perfect process of curing has an immense reward awaiting him.

#### TEXTILE CROPS.

Cotton has been tested in Southern California with such successful results that in some places it has been adopted as the staple crop, superceding corn and wheat. The yield is about double the average yield of the cotton growing States, whilst the cost of production and gathering is about 50 per cent. less. The cost of preparing land is the same as for corn, and after planting the seed and thinning the plants to a proper stand, nothing more in the way of attendance or cultivation is required until picking time commences, when gangs of Chinamen are employed. These are far more reliable than the negro and being steady and industrious are really cheaper. When fairly treated, they invariably live up to their contracts.

Owing to the absence of rain, the cotton is of most dazzling whiteness; the fibre is finer and the staple longer than that of the cotton of the same variety produced any where in the Mississippi valley. At least this is said by experts whose long experience qualifies them to judge. It has been tested in this valley with decided success, but it was found that there were many other crops which were equally or even more profitable, and were less trouble to grow and market.

#### HEMP

Has been tested on a small scale and made a wonderful growth, and there is no question as to its being adapted to our soil and climate, but whether it can be made to pay is yet to be

ascertained.

#### FLAX

Has proved a profitable crop in many parts of this State when grown for the seed alone, and is particularly so when a paper mill is sufficiently near to make a market for the straw. The crop of seed varies from 1,000 to 2,000 lbs. per acre, which at the standing price, will make a crop yield from \$30 to \$60 per acre. When the straw can be disposed of for sufficient to pay expenses, the crop pays well.

#### RAMIE

Grows well in our valley, but as yet has only been experimented with. The fibre is the best and strongest known. Many parties are testing it, but as yet no practical results have been obtained, but those who are engaged in its culture think that it will not only be successful, but exceedingly profitable.

#### OUR MARKET

At present is San Francisco, which takes all of our surplus of oranges and other semi-tropical fruits, as well as most of our surplus grain and other farm produce, but we are to have an immense market opened to us in the great desert basin lying north and east of the Sierra Madre mountains, which bound our valley on the north. For several years a considerable portion of our corn and barley has been consumed by the teamsters, hauling supplies to, and bullion from, these mines, only a small portion of which have been worked. But within a few months railroads, now being actively constructed, will, by affording cheap transportation, render possible the working of hundreds of mines who have heretofore lain idle on account of the immense cost of transportation. Within the next two years these mines and those of Arizona will take all of our surplus products, and then we will have nearly a home market for what we have to sell, and we will not be obliged to ship to San Francisco, and compete in that often glutted market with the balance of the State.

This tremendous market will really



belong to us, as we will be the nearest point of supply, and the value of such a market will be better appreciated when it is known that the country in question is an utter desert, producing nothing except the precious metals, and will be entirely dependent upon us for meat, grain, hay, vegetables, butter, cheese, fruits, and, in fact, for everything in the way of supplies for man and beast. This mining country is so extensive and will contain such a large population of miners that the productive lands of this valley will, within a very few years, be taxed to their utmost capacity to furnish the needed supplies.

#### OUR PRESENT FACILITIES FOR SHIPMENT

Are not excelled by those of any part of the coast of California and are superior to most. At present all of our produce and all of our merchandise and lumber is shipped and received by sea. Various points on our sea coast are so well protected from the prevailing winds by projecting headlands and outlying islands, that the force of the waves is broken and wharves are readily built out into the sea to deep water and ships of large size can lie alongside and load or discharge almost as well as in a land-locked harbor. Heretofore our shipping has been done by lighters and they have in times past been a great convenience, but are now too slow for this age of progress. Ship and car must be brought together, which can only be done by wharves built out to deep water. One of these is now nearly completed and when finished will have sufficient depth at its pier-head for the largest ship navigating the Pacific ocean to lie safely at and discharge or receive freight. This is only one of many that must be built to furnish the needed facilities for the dense population that will soon occupy this fertile valley, the present inhabitants of which are just now awakening to a dim perception of the magnificent future that is dawning upon them.

#### OUR RAILROADS.

At the present time there are in this county, one hundred and three miles of railroad in actual operation, branching in various directions from Los Angeles as a center, to wit: The Wilmington road, 21 miles; Anaheim branch, 22 miles; San Fernando road, 25 miles; and Spadra road to county line, about 35 miles; total 103 miles. Within the next four months the Spadra branch, which is already finished to San Bernardino, will extend through the San Geronimo Pass to the desert, a distance of 120 miles from Los Angeles in the direction of Fort Yuma, on the Colorado river, to which point it will be extended early next year. The Anaheim Branch will probably be extended during the present season 10 miles further into the valley on the east side of the Santa Ana river. Between Los Angeles and San Francisco there is a continuous line of road, with the exception of the gap between Caliente, the present terminus of the road at the head of the San Joaquin valley, and San Fernando, the terminus of the north branch from Los Angeles. This interval is about 100 miles in length and would have been completed long ago but for the necessity of first piercing with tunnels the Sierra Madre at San Fernando and the Sierra Nevada at Tehachepa Pass—both extraordinarily heavy operations. These tunnels are being pushed as fast as men and money can drive them, and it is confidently expected that within a year from this time there will be a continuous line of rail from San Francisco to Fort Yuma. All of the roads mentioned belong to the Southern Pacific Railroad Co., who possess great resources, and are displaying a vast amount of energy in railroad

building at a time when financial depression has crippled almost all other railroad companies and stopped their operations. The completion of the road to San Francisco places us in direct connection with the present overland road and will enable immigrants to come directly to this section without change or trouble. We want population, and this road will afford greatly increased facilities for them to get here. The Fort Yuma road, which we are assured is to be extended without delay through Arizona to the Rio Grande, will open to us an immense mining trade in Arizona. Compared to the vast area of rich mining country the agricultural lands of Arizona amount to but little. The bulk of their supplies must be furnished by us. Heretofore, the immense cost of transportation has prevented the working of hundreds of rich mines. The construction of this road through Arizona will bring population and prosperity to that now stagnant country and it will be our mission to supply them with all the necessities and luxuries of life.

#### THE LOS ANGELES AND INDEPENDENCE RAILROAD

Commences at the sea coast at Santa Monica and passing through the Southern part of the city of Los Angeles and the Laguna rancho, crosses the San Gabriel river at or below the pass through the Puente hills taking thence the most direct route to the Cajon Pass; and after passing that, enters upon the immense desert basin in which by avoiding the isolated spurs and detached ranges of mountains which are sprinkled about in it, throughout its extent, an easy gradual

grade can be had to the city of Salt Lake. This will give us a direct connection with the Union Pacific at Ogden which road can reach the Pacific ocean with a down grade and two hundred miles less distance than by the Central Pacific to San Francisco. This is one of the certainties of the near future, but the immediate and principal object of constructing this road was to reach the rich mining districts in the southern part of the great Salt Lake basin. These ores are almost invariably what are termed base metal—silver and lead—heavy to transport, and as I have before remarked, the whole of the southern part of this basin is an utter desert with but little timber for fuel. Their ores must come to the coast for reduction, and on the other hand, all their supplies must be taken from this valley. This latter fact is what gives the road its particular value to us. We will have the supplying of the vast host of miners, who will populate that country as soon as railroads have sufficiently lowered the cost of transportation to make mining practicable. This road will do both; it is backed by ample capital and will be built for cash, consequently it will be able to do business at reasonable rates and still pay a handsome profit on the cost. The fact that this road creates a new and ample market for us, gives us direct rail connection with the Atlantic coast and will probably build up a large city upon the sea coast where the reduction works will be established, makes it, from our point of view, the most important road ever projected in this section. In connection with this road

and the port of Santa Monica a line of fast steamers are being built to reduce the time between Los Angeles and San Francisco to 24 hours. This had become a necessity, if the present line of steamers expected to retain even a portion of the travel that they now almost entirely monopolize.

#### STEAMER LINES.

Messrs. Goodall, Nelson & Perkins, of San Francisco, are running a large fleet of steamers to the Southern Coast, for both passengers and freight, which are arriving and departing almost daily. So far as freight is concerned, our business with San Francisco and other coast ports will always be by sea. The distance by sea is less than 400 miles, whilst by rail it is 500 miles, on which, at an average of twenty miles per hour, passengers will be 25 hours from San Francisco to Los Angeles. The direct distance by sea from San Francisco to Santa Monica is about 360 miles, and to compete with the railroad time the steamers will have to average 15 miles per hour, which can easily be done if fast, first-class steamers are put on the route. The steamers at present on the route are as safe, and as large, and as comfortable as the trade warranted the company in putting on. Their capacity is quite equal to the handling of all the freight shipped from coast ports to San Francisco at the present time. It is obvious, therefore, that with these rival routes, competing with each other, our transportation of passengers and freight, will always be safe, speedy and cheap.

#### PANAMA STEAMERS.

In addition to the above-mentioned line of steamers, I believe it is arranged to have the Panama steamers touch regularly at the Santa Monica wharf. This will enable immigrants, who may take the ocean route, to come directly to their destination without the trouble and expense of previously going to San Francisco, and then taking a coast steamer from there. Our extent of territory and great advantage of soil

and climate are certain to attract a large population, and populous centers naturally attract railroads and steamer lines, because it pays to go to them.

#### LUMBER AND BUILDING MATERIALS.

At the present time, lumber is brought from ports on the northern coast on sailing vessels, which, after discharging their lumber, take back loads of grain.

The lumber is of two kinds—redwood, a kind of cedar, and fir, otherwise called Oregon pine. The present cost of lumber (rough) in Los Angeles and Anaheim is \$32 50 per thousand feet, and for dressed, \$42 50 per thousand feet. Lumber brought here by sea has had to be lightered ashore at heavy expense, but the construction of wharves out to deep water, and the bringing together of ship and car will materially reduce the cost of landing it, and it may also reasonably be expected that competition in a large market will reduce rates to something like San Francisco prices.

We have also a home supply. On the north side of the Sierra Madre is an immense supply of timber, which will become available after the railroad tunnels through the San Fernando and Cajon Passes are finished. The distance over which it will have to be transported is short, and the supply is ample both for our own needs and those of the mining country in the desert basin north and east.

#### LIME.

Marble of fine quality is found in large quantities in the Santa Ana valley and at other points near the lines of railroad.

#### BRICKS

Of good quality are made and sold at \$8 per thousand, and good, sharp building sand is abundant. Immigrants will have no difficulty in providing themselves with comfortable homes at short notice.



## SEMI-TROPICAL CALIFORNIA.

### THE CLIMATES

Of Semi-Tropical California are now universally acknowledged to be superior to those of any part of the world; figures and facts prove this. I say *climates*, for within the area which I have described as Semi-Tropical California, there are many shades and varieties of climate, suited to all varieties of disease. In addition, we have healing springs at San Juan Capistrano, Temescal and San Jacinto, that never fail to cure the most obstinate cases of rheumatism, and all kinds of cutaneous diseases. In the latter case all that is necessary is to wash and be clean, for two or three months of persistent daily bathing invariably cures.

As a proof of what our climate is, I present the observations taken by Messrs. Edwin S. Saxton and Francis S. Miles, of this place. The former has a registering thermometer, which gives the highest and lowest points reached by his thermometer during the last year and a half, including the extraordinary frost of April 1875, which is unexampled by the history of this section. Unlike other observers, who sometimes conceal the disagreeable facts and only record the favorable, Mr. Saxton conceals nothing, and gives the record as it actually occurred. Mr. Miles gives the climate from an invalids point of view, and gives the temperature of that part of the day when an invalid is supposed to be out of doors, and also gives his observations taken by himself at Mentone, France, and at Aiken, South Carolina, during the three winter months, as compared with the same months at Anaheim, which show that our climate is incomparably better. These tables may be taken as a fair average of Semi-Tropical California. Those who desire can find warmer and dryer or cooler climates in different localities.

Thermometrical record for eighteen months, beginning July first, 1874, giving lowest at night preceding, and highest by day; also at 7 A. M.

and 7 P. M. As space required for each day by itself would present an array of figures uninteresting to any except a very few, the average for each month only will be given:

#### JANUARY.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	43	44	60	52

The lowest figures touched were on the three consecutive days—31, 37, 35. The highest—69, 68, 69. Average for month, 50. Rainy four days.

#### FEBRUARY.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	39	41	59	58

Lowest three days—32, 32, 33. Highest three days—65, 68, 66. Average for month, 47. Rainy or showery, seven days.

#### MARCH.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	38	41	59½	49½

Lowest three days—30, 32, 31. Highest three days—66, 67, 70. Average for month, 47. Rainy or showery, six days.

#### APRIL.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	40	45	70	56

Lowest three days—35, 33, 34. Highest three days—78, 78, 80. Average for month, 52½. Light showers, three days.

#### MAY.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	47½	54½	74	63

Lowest three days—38, 35, 40. Highest three days—89, 81, 83. Average for month, 59½. Showers, two days.

#### JUNE.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	48½	58½	80	66

Lowest three days—41, 43, 41. Highest three days—85, 90, 90. Average for month, 63½.

#### JULY.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	57½	66	83½	68

Lowest three days—53, 52, 51. Highest three days—90, 89, 90. Average for month, 68½.

#### AUGUST.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	51½	63½	82½	65½

Lowest three days—44, 44, 45. Highest three days—94, 93, 95. Average

for month, 67. Shower on 29th.

# SEPTEMBER.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	50	58	77	61

Lowest three days—43, 43, 43. Highest three days—89, 88, 94. Average for month, 61½.

# OCTOBER.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	49¼	55	73	58

Lowest three days—38, 41, 37. Highest three days—90, 85, 84. Average for month, 59. Showery four days.

# NOVEMBER.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	42½	44¼	65¾	50½

Lowest three days—35, 36, 33. Highest three days—78, 79, 82. Average for month, 50¾. Rain three days.

# DECEMBER.

1874.	Lowest.	7 A. M.	Highest.	7 P. M.
	36¼	39¾	63¾	43

Lowest three days—28, 28, 29. Highest three days—80, 81, 78. Average for month, 47. Shower on 26th.

# JANUARY.

1875.	Lowest.	7 A. M.	Highest.	7 P. M.
	39	40¾	59½	49

Lowest three days—32, 32, 31. Highest three days—69, 68, 64. Average for month, 47. Rain six days.

# FEBRUARY.

1875.	Lowest.	7 a. m.	Highest.	7 p. m.
	40	42½	62½	51¾

Lowest three days—35, 34, 32. Highest three days—72, 76, 72. Average for month, 49. Light shower 22d.

# MARCH.

1875.	Lowest.	7 a. m.	Highest.	7 p. m.
	36½	42	64½	52¼

Lowest three days—32, 28, 31. Highest three days—70, 76, 72. Average for month, 49. Showers two days.

# APRIL.

1875.	Lowest.	7 a. m.	Highest.	7 p. m.
	41½	49	70	55

Lowest three days known in twenty years—22, 24, 28. Highest three days—81, 84, 76. Average for month, 54.

# MAY.

1875.	Lowest.	7 a. m.	Highest.	7 p. m.
	50	56½	74¾	64½

Lowest three days—41, 40, 38. Highest three days—97, 93, 80. Average for

month, 61½.

# JUNE.

1875.	Lowest.	7 a. m.	Highest.	7 a. m.
	51½	58½	76¾	64½

Lowest three days—44, 43, 44. Highest three days—83, 85, 85. Average for month, 62¼.

By averaging the highest and lowest, each month, it will be seen how very near it comes to the average of the whole month, as taken at the four separate hours each day, varying but little from two degrees.

**Condensed Meteorological Report by Francis S. Miles, of the Climate of the town of Anaheim, Prepared from Observations taken daily at 8 A. M., 1 P. M., and 6 P. M., Including Thirteen months, from July 1st, 1872 to July 31st, 1873.**

**JULY, 1872.** Hygrometer—Average difference between wet and dry bulb, 7 1-6°; Thermometer—Av. temperature 72¾°; Maximum, 83°; Minimum, 66°. On five days the temperature was above 80° at 1 P. M. Bright sunshine, 30 days; cloudy and rainy, one day.

**AUGUST, 1872.** Hygrometer—Average difference between wet and dry bulb, 8°; Thermometer—Av. temperature, 72¾°; Maximum, 94°; Minimum, 68°. For nine days the temperature was above 80° at 1 P. M., and on two days above 83°. Bright sunshine, 20 days; sunshine and clouds, ten; cloudy all day, one.

**SEPTEMBER, 1872.** Hygrometer—Average difference between wet and dry bulb, 8 1-10°; Thermometer—Av. temperature, 74°; Maximum, 90°; Minimum, 62°. On five days the temperature was above 80°, on one of which it was above 83° at 1 P. M. Bright sunshine, twenty-eight days; sunshine and clouds, one; cloudy all day, one.

**OCTOBER, 1872.** Hygrometer—Average difference between wet and dry bulb, 8¾°; Thermometer—Av. temperature, 69¼°; Maximum, 96°; Minimum, 58°. On four days the temperature was above 80° at 1 P. M., and on one of these it was above 83°. Bright sunshine, twenty-seven days. sunshing

and clouds, four.

NOVEMBER, 1872. Hygrometer—Average difference between wet and dry bulb,  $11\frac{1}{2}^{\circ}$ ; Thermometer—Av. temperature,  $68^{\circ}$ ; Maximum,  $85^{\circ}$ ; Minimum,  $55^{\circ}$ . On six days the temperature was below  $60^{\circ}$  at 8 A. M. Bright sunshine, twenty-six days; sunshine and clouds, three; cloudy all day, one.

DECEMBER, 1872. Hygrometer—Average difference between wet and dry bulb,  $6\ 1-6^{\circ}$ ; Thermometer—Av. temperature,  $62^{\circ}$ ; Maximum,  $77^{\circ}$ ; Minimum,  $50^{\circ}$ . Bright sunshine, seven days; sunshine and clouds, six; cloudy all day, eight; rain on two days and four nights; on five days the temperature was below  $55^{\circ}$  at 8 A. M., strong wind, one day.

JANUARY, 1873. Hygrometer—Average difference between wet and dry bulb,  $7\frac{1}{2}^{\circ}$ ; Thermometer—Average temperature,  $63\frac{1}{2}^{\circ}$ ; Maximum,  $80^{\circ}$ ; Minimum,  $50^{\circ}$ . On six days the temperature was below  $55^{\circ}$  at 8 A. M. Bright sunshine, 19 days; sunshine and clouds eight; cloudy all day, four; rain, two days, and strong wind two days.

FEBRUARY, 1873. Hygrometer—Average difference between wet and dry bulb,  $4\frac{1}{2}^{\circ}$ ; Thermometer—Av. temperature,  $57\frac{1}{2}^{\circ}$ ; Maximum,  $75^{\circ}$ ; Minimum,  $44^{\circ}$ . On fifteen days the temperature was below  $55^{\circ}$  at 8 A. M. Bright sunshine, seven days; sunshine and clouds, thirteen; cloudy all day, eight; rain on nine days.

MARCH, 1873. Hygrometer—Average difference between wet and dry bulb,  $6\frac{1}{2}^{\circ}$ ; Thermometer—Av. temperature,  $64\frac{1}{2}^{\circ}$ ; Maximum,  $81^{\circ}$ ; Minimum,  $54^{\circ}$ . On two days the temperature was below  $55^{\circ}$  at 8 A. M. Bright sunshine, twelve days; sunshine and clouds, 13; cloudy all day, six; strong winds, two days.

APRIL, 1873. Hygrometer—Average difference between wet and dry bulb,  $9\frac{3}{4}^{\circ}$ ; Thermometer—Av. temperature,  $64\frac{1}{4}^{\circ}$ ; Maximum,  $87^{\circ}$ ; Minimum,  $48^{\circ}$ . On four days the temperature was below  $55^{\circ}$  at 8 A. M. and on 4 days above  $80^{\circ}$  deg.; at 1 P. M. Bright sunshine, twenty-one days; sunshine and clouds, eight; cloudy all day, one.

MAY, 1873. Hygrometer—Average difference between wet and dry bulb,  $7\frac{1}{2}^{\circ}$ ; Thermometer—Av. temperature,  $65\frac{1}{2}^{\circ}$ ; Maximum,  $86^{\circ}$ ; Minimum,  $57^{\circ}$ . On two days the temperature was above  $80^{\circ}$  at 1 P. M. Bright sunshine, sixteen days; sunshine and clouds, nine; cloudy all day, six.

JUNE, 1873. Hygrometer—Average difference between wet and dry bulb,  $7\ 1-6^{\circ}$ ; Thermometer—Av. temperature,  $70^{\circ}$ ; Maximum,  $91^{\circ}$ ; Minimum,  $60^{\circ}$ . On five days the temperature was above  $80^{\circ}$  at 1 P. M. Bright sunshine, thirty days.

JULY, 1873. Hygrometer—Average difference between wet and dry bulb,  $8\frac{1}{4}^{\circ}$ ; Thermometer—Av. temperature,  $73^{\circ}$ ; Maximum,  $100^{\circ}$ ; Minimum,  $62^{\circ}$ . On eight days the thermometer rose above  $80^{\circ}$ , and on three days above  $85^{\circ}$ . Bright sunshine, twenty-eight days; sunshine and clouds, two; clouds all day, one.

Condensed Meteorological Record, taken at Mentone. France, during December, January and February, by Francis S. Miles, of New York, Observations taken at 8 A. M., 1 P. M. and 6 P. M.

DECEMBER. Hygrometer—Average difference between wet and dry bulb,  $5\frac{1}{2}^{\circ}$ ; Thermometer—Av. temperature,  $49^{\circ}$ ; Maximum,  $62^{\circ}$ ; Minimum,  $37^{\circ}$ . Bright sunshine, ten days; sunshine and clouds, eight; cloudy all day, thirteen; rain, twelve; strong winds, two.

JANUARY. Hygrometer—Average difference between wet and dry bulb,  $6^{\circ}$ ; Thermometer—Av. temperature,  $48^{\circ}$ ; Maximum,  $61^{\circ}$ ; Minimum,  $36^{\circ}$ . Bright sunshine, eighteen days, sunshine and clouds, four; cloudy all day, nine; rain, nine; strong wind, seven.

FEBRUARY. Hygrometer—Average difference between wet and dry bulb,  $6\frac{1}{2}^{\circ}$ ; Thermometer—Av. temperature,  $48^{\circ}$ ; Maximum,  $61^{\circ}$ ; Minimum,  $33^{\circ}$ . Bright sunshine, sixteen days; sunshine and clouds, seven; cloudy all day, five; rain, seven; strong wind, seven.



**Condensed Meteorological Record, taken at Aiken, South Carolina, during the Winter of 1870-71, by Francis S. Miles. of New York. Observations taken at 8 A. M., 1 P. M. and 6 P. M.**

**DECEMBER, 1870.** Hygrometer—Average difference between wet and dry bulb, 4°; Thermometer—Av. temperature, 45°; Maximum, 61 deg.; Minimum, 18 deg. For ten days the thermometer averaged below 40 deg. Bright sunshine, fifteen days; sunshine and clouds, six; cloudy all day, ten; rain on four, and snow on one of the above cloudy days; strong winds on eight days.

**JANUARY, 1871.** Hygrometer—Average difference between wet and dry bulb, 6 deg.; Thermometer—Av. temperature, 55 deg.; Maximum, 69 deg.; Minimum, 33 deg. On eleven days the thermometer averaged below 45 deg. Bright sunshine, fourteen days; sunshine and clouds, ten; cloudy all day, seven; rain on three, and strong winds on eight days.

**FEBRUARY, 1871.** Hygrometer—Average difference between wet and dry bulb, 5 deg.; Thermometer—Av. temperature, 57½ deg.; Maximum, 80 deg.; Minimum, 38 deg. On six days the thermometer averaged below 45 deg. Bright sunshine, twelve days; sunshine and clouds, six days; cloudy all day, ten; rain, seven; strong winds sixteen. The winter of 1870 and 1871 was considered a remarkably fine one for Aiken.

#### RECAPITULATION.

During December, January and February at Anaheim an invalid could have been out of doors all day—81 days. Confined in doors by bad weather, 9 days.

At Mentone, during the corresponding months, there were of fair days, 67; there were of bad days, 23.

At Aiken, during the corresponding months, there were of fair days, 53; there were of bad days, 37.

At Anaheim, rain thirteen days, strong winds three days.

At Mentone, rain twenty-eight days,

strong wind twenty-three days.

At Aiken, rain fourteen days, snow one day and strong winds thirty-two days.

#### DEGREE OF DRYNESS.

At Anaheim, average difference between wet and dry bulb, 6½ deg.; at Mentone, 6 deg.; at Aiken, 5 deg.

#### TEMPERATURE.

At Anaheim, average temperature, three months, 61 deg.; Maximum, 77½ deg.; Minimum, 49½.

At Mentone, average temperature, for three months, 48½ deg.; Maximum, 63½ deg.; Minimum, 35½.

At Aiken, average temperature, for three months, 53 deg.; Maximum, 70 deg.; Minimum, 30 deg.

#### Communication from Wm R. Olden, on the Climate of Anaheim, as Compared with other Noted Invalid Resorts

[From the Anaheim GAZETTE, August 16, 1873.]

All leading physicians agree that a dry, tonic, stimulating atmosphere is most desirable in all cases of depressed vitality, as contrasted with the enervating and debilitating effects of a moist, sultry climate.

In Southern California really sultry weather is unknown. Dryness is the prevailing characteristic of our atmosphere. Invalids invariably gain flesh and strength rapidly, more particularly when they have discovered the location suited to their case.

Anaheim is elevated 150 feet, and the still more elevated parts of the valley, next to the foot hills, have an elevation of about 250 feet above the sea level. In consequence of the dryness of our atmosphere, 100 deg. Fahrenheit is not so oppressive as 80 deg. in the Atlantic States, and the invariable coolness of our nights is an agreeable contrast to the smothering and oppressive closeness of the summer nights in all the country east of the Rocky Mountains.

The cause of our peculiar climate is, that during the winter season, the ocean and land temperature is about equal, therefore during the cooler

months we have not nearly so much wind—a desirable feature. But during the warm season, the cool air of the ocean (averaging 60 deg. Fah.) rushes to the heated interior valley, and thus gives to our summers their delightfully cool, refreshing and invigorating climate. It cannot fail to be seen at a glance that there is really no comparison between Anaheim, Aiken and Mentone, and that it is the most absolute folly to cross the Atlantic in search of an invalid climate, when we have in Southern California the best and most equable of climates. I say climates, for there are many of them, and whilst they are all good, of their kind, the different locations present such an infinite variety, that it seems to be impossible that an invalid can fail to find a location possessing the temperature and degree of moisture suited to his or her particular case.

In the valley of the Santa Ana and the country adjacent, all these different shades are found; and the observations taken at Anaheim may be considered as a fair average for the section. As we go from Anaheim to the sea (thirteen miles) the moisture increases, and the temperature diminishes, and on the other hand, as we go from Anaheim to the hills, (six miles) the moisture diminishes, and the temperature increases.

Mr. Francis S. Miles, has been a consumptive for fifteen years, and has spent several winters in the best climates of the south of Europe, vainly endeavoring to recover his health; has made a study of invalid climates, and has applied the test, the Hygrometer and Thermometer, to every place at which he resided. He found it to be the rule that invalids whose health had been improved by a residence in the south of Europe, generally lost all they had gained by the change from land to sea and from sea to land on the voyage home. Southern California can be easily and comfortably reached by land, and by making the change at the proper season, invalids can reach their homes with renewed health, and without any loss of what they have

gained. In three years, at farthest, the completion of the Southern Pacific and Texas Pacific Railroads, will make it only a week's travel from any part of Southern California to the most distant portion of the Atlantic States.

The poor, as well as the rich, can avail themselves of the curative advantages of our climate. People can and do live comfortably in a common rough board shanty. Food and other necessities are as cheap here as in most parts of the country; there is a constant supply of fresh vegetables, with fruits and melons in season. Our hotels are comfortable, and charges moderate. Families can board, or keep themselves, as they choose.

Numerous invalids have spent a few weeks or months in various parts of this valley, and all of them have been benefited. Some, like Messrs. Miles, Saxton, Fields, and others, have taken up their permanent residence here; others have gone home with the full determination of at least spending their Winters here, but, as will be seen by the table, our spring, summer and fall climate is as superior to the changeable springs, sultry and enervating summers, and frosty falls, as to the detestable winters of the North and East. Those who have the requisite means, can surround themselves with oranges, vines and flowers, and make life one continued enjoyment. This does not require much money, as land is cheap and water abundant. With these requisites, all fruits of the Temperate and Semi-tropic zones flourish exceedingly.

Unlike other winter resorts with Semi-tropical climates, we are absolutely free from malarious, epidemic and endemic diseases. This is probably owing to the refreshing and delicious sea-breeze which blows with unfailing regularity from 11 A. M. until night, for eight months of the year.

WM. R. OLDEN.

Anaheim, August 11th, 1873.

## CONCLUSION OF MR. OLDEN'S ARTICLES.

In the foregoing articles, I have shown that Semi-Tropical California offers to those who are seeking homes far greater advantages than any part of the whole world. Facts and figures prove conclusively that no other climate can be compared to it in point of comfort and healthfulness, independent of its unrivalled advantages, from a sanitary point of view.

To the invalid, we offer health; to the man of wealth, we offer a country and climate where he can surround himself with all of the comforts and luxuries which render existence delightful; where he can charm his senses with the rich and varied colors and perfumes of the most beautiful ever-blooming flowers; with a constant supply of the most delicious fruits of both the temperate and semi-tropical zones; in a climate where mere existence is a perpetual delight; where he can avoid the cold of winter and the enervating and oppressive heat of summer; where, by means of the telegraph, he will be as constantly and promptly informed as to the events transpiring in all parts of the world as he would be in San Francisco or New York. Within one year from date he will be in railroad connection with all the lines of railroad in North America, and can reach San Francisco in one day, or New York or Boston in eight. Such advantages must infallibly attract a large population of wealthy and cultured people from the North and East, who will create homes here, to which, like the swallows, they will fly from the rigor of Northern winters. To the stock-raiser, we offer advantages, superior to any that can be procured elsewhere; and where fine stock of all kinds can be produced in the greatest perfection, at the least cost for food and attendance, and with all desirable facilities for transportation to markets.

To the farmer fertile and easily cultivated lands, producing with absolute certainty two and even three crops

per year, with abundance of water for irrigation and ample markets near at hand for everything that can be produced from our prolific soil.

To the poor man, no part of the State offers the same advantages. If he wants employment, he can get steady, continuous work in a country where agricultural operations are continuous, and not confined to seed time and harvest, as in the Northern part of the State. Good, steady, honest men never lack for work, but, on the contrary, are always in demand. Our supply of labor has always been deficient, and *good hands* are particularly scarce.

To men too poor to buy, we offer lands at easy rent, payable either in coin or in kind, with abundance of water for irrigation, and with a certainty of crops.

All who want homes should by all means come and visit this section before purchasing. Those who settle for life should be very careful in making their selection. It is much easier to make a mistake than to correct it afterwards, and listen to no man who would persuade you to buy land that has no water for irrigation.

THE AUTHOR.





# The Stearns' Ranchos.

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ALFRED ROBINSON, Trustee,

542 Market St., San Francisco.

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## 90,000 ACRES OF LAND!

**For Sale in Lots to Suit.**

Suitable for the culture of Oranges, Lemons, Limes, Figs, Almonds, Walnuts, Apples, Peaches, Pears, Alfalfa, Corn, Rye, Barley, Flax, Ramie, Cotton, etc., etc.

Also many thousand acres of

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Suitable for Dairying. Good water is abundant at an average depth of six feet from the surface.

### Artesian Wells

Can be obtained; and the more elevated portions can be irrigated by the water of the Santa Ana river. Most of these lands are naturally moist, requiring only good cultivation to produce crops.

**TERMS:**—One-fourth cash, balance in one, two, or three years, with ten per cent interest.

I will take pleasure in showing these lands to parties seeking land, who are invited to come and see this extensive tract before purchasing elsewhere.

**Wm. R. OLDEN, Agent,**  
Anaheim, Los Angeles Co.



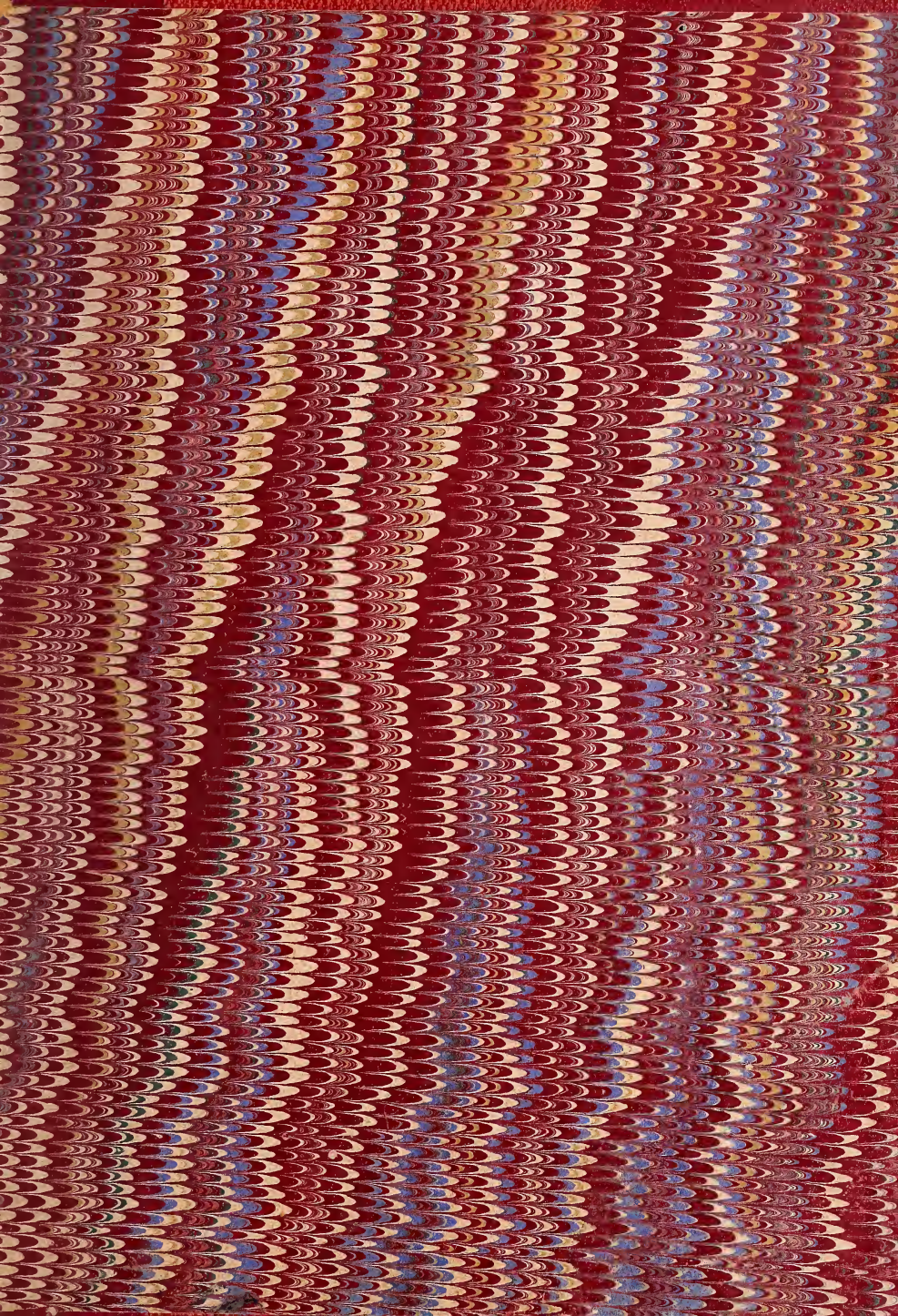














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